THE GETTY CENTER LIBRARY

Why ask for the moon
when we have the stars?

AS

Digitized by the Internet Archive
in 2018 with funding from
Getty Research Institute

https://archive.org/details/photobeacon1619unse

THE
PHOTO-BEACON

A JOURNAL DEVOTED TO

PHOTOGRAPHY

IN ALL ITS PHASES.

VOLUME XVI.

1904.

"LET THERE BE LIGHT."

THE PHOTO-BEACON COMPANY,
Security Building,
Chicago, Ill., U. S. A.

THE HENRY O. SHEPARD COMPANY
PRINTERS AND BINDERS,
120-130 SHERMAN ST., CHICAGO.

THE GETTY CENTER
LIBRARY

INDEX.

PAGE

A

American Awards in Photographic Section at the World's Fair 350
American Photographic Methods, Some Impressions of 77
American Photographic Societies, A Federation of 233, 348
Amidol 170
Anti-halation Plates 351
Art, Can a Photograph be a Work of 323
Art, Fact and Fancy in 341
Art, Photography as a Fine 332
Atmosphere, On the Rendering of 339

B

Background Carrier, A 22
Bellows, Light-tight, To Make 191
Beyond Our Grasp 253
Brass, To Blacken 350
Bromid Papers, Iron Developer for 57
Bromid Prints, Controlling Gradation in 95
Bromid Prints, On the Discoloration of 213
Bromid Prints, Methods, Some 123

C

Cameo-reliefs by Photography 177
Camera After the Snowfall, Afield With the 337
Cameras, Novelties in 105
Candle Light Photography 173
Carbon Tissue, Improvements in Sensitizing 14
Carbon Tissue, Sensitizing 318
Chicago Salon, The Fourth 3, 35, 67
Classification and Filing, A System of 12
Cleanliness 146
Colored Developers in Photography 245
Colored Photographs of Fern Leaves, How to Produce 350
Colors, Printing in Two 181
Collotype Printing for Amateurs 251
Competitions, Historical Pictures 381
Competitions, Pictorial .. 4, 38, 68, 100, 132, 165, 198, 230, 260, 293, 325, 358
Competitions, Professional Portrait 4, 41, 74, 101, 135, 166, 199, 231, 262, 295, 326, 360
Contrasts in Negatives, Harsh 244
Convention, The National 324
Critics and Criticism 276, 349
Cult of Vagueness, The 70

D

Daguerreotype Process, Gelatin 376
Darkroom Illumination 219

PAGE

Developers for Gaslight and Bromid Papers, Iron 57
Developers for Photography, Colored 245
Development, On 131
Development, Scientific and Practical 266, 300, 329, 371
Dollars and Cents in Photography 355

E

Editor, What is an 99
Editorial Table ... 32, 64, 96, 128, 160, 192, 224, 253, 288, 320, 352, 384
Enlarging from Films with the Optical Lantern .. 107
Explosions with Flashlight Powders, The Cause of 10

F

Factorial System, Deductions Derived from the. 303
Federation of American Photographic Societies, A 233, 348
Fern Leaves, How to Produce Colored Photographs of 350
Filing, A System of Classification and 12
Filling a Space, On 248
Films With the Optical Lantern, Enlarging from 107
First American Salon 363
Flashlight Powders, The Cause of Explosions with 10
Floral Decoration, Practical Notes on 207
Focus, About Infinity 180
Focusing Screen, To Make a 320
Fog, Some Notions About 86
Fundamental Principles, Some 317

G

Gaslight Papers, Iron Developer for 57
Gelatin Daguerreotype Process 376
Glass, The Defects of 350
Glass, Writing Upon 186
Grain in Photography, The Silver 345
Gum-bichromate Printing, Errors and Fallacies in 311
Gum-bichromate Prints, Dechromating 59
Gum-bichromate, Modified Methods in 58
Gum-bichromate Workers, A Useful Hint to 191

H

Harsh Contrasts in Negatives 244
Hartman as a Photographic Writer, Sadakichi .. 307
Hints to Vacationists 211
Historical Pictures Competitions 381
Hypo, Test for 294
Hypo, To Eliminate 336

PAGE

I

Ideals, Technical 237
Illinois Convention 62
Inglis, The Late James.......................... 291
Intensification and Reduction 270
Intensification Without Metallic Salts.......... 185
Inquisitorial System, The..................... 346
Iron Paper Developed with Silver, A Sensitive. 6

J

Japan, A Lesson from....................... 334

K

Kallitype Simplified 203, 240, 315

L

Lamplight Exposures 181
Lantern Slides, Controlling Gradation in....... 95
Leaves, Preparing and Photographing Skeleton.. 124
Lens, The Homocentric 171
Lenses, Hints on 22
Lenses, The Practical Testing of............. 109
Lesson from Japan, A....................... 334
Little Tin Gods on Wheels.................. 282

M

Mountants, Wet and Dry.................... 253
Mounting, Dry 85
Mounting Prints in Optical Contact with Glass.. 95

N

Natural History as a Special Study for Amateur Photographers 144
Negatives, Harsh Contrasts in............... 244
Notebook, My 24

O

Oil Printing 365
Ortol 303

P

Paper, A Home-made Printing................ 90
Paper Developed with Silver, A Sensitive Iron 6
Papers, Iron Developer for Gaslight and Bromid 57
Papers, Salted 187
Parts, Table of 56
Photographers' Association of America..... 92, 280
Photographers' Association of North America 223, 259, 294
Photographs, A Novel Method of Printing...... 53
Photographic Societies, A Federation of American 235, 348
Photography as a Fine Art................323, 332
Photography as a Profession..20, 163, 195, 227, 268
Photography at the St. Louis Exposition....... 175
Photography, Dollars and Cents in............ 355

PAGE

Photography, The Advancement of........... 27
Pictorial Competitions..4, 38, 68, 100, 132, 165, 198, 230, 260, 293, 358
Picturemakers, Hints for 184
Pictures, The Office Boy on the Prize......... 134
Pitfalls by the Way......................... 49
Plate, Testing the Register of a.............. 126
Platinotype Printing 149
Poison Scare Again, The..................... 154
Portrait Competition, Professional....4, 41, 74, 101, 135, 166, 199, 231, 262, 295, 326, 360
Portraiture 56
Printing for Amateurs, Collotype............ 251
Printing, Oil 365
Printing Paper, A Home-made................ 90
Printing in Two Colors...................... 181
Printing Platinotype 149
Prints, On the Discoloration of Bromid........ 213
Prints, Preserving 252
Print Washer, How to Make a............... 63
Professional Portrait Competition.....4, 41, 74, 101, 135, 166, 199, 231, 262, 295, 326, 360
Pyro 94

R

Radium 7
Rays, More 362
Reduction, Intensification and.............270, 274

S

Salon, First American 363
Salon, The Fourth Chicago..............3, 35, 57
Sameness 310
Sensitive Iron Paper Developed with Silver, A. 6
Silver Grain in Photography, The............ 345
Simplification 157
Snowfall, Afield with the Camera After the.... 337
Sodium Sulphite 140
Solutions, Making of........................ 190
Space, On Filling a......................... 248
Store Windows, To Photograph.............. 64
Sulphite, Sodium 140

T

Technical Ideals 237
Tissue, Improvements in Sensitizing Carbon.... 14
Title a Negative, To......................... 62
Tones, Red 292
Toning, A New Method of................... 319
Toning Methods, Some Bromid.............. 123
Tray, How to Make a....................... 26
Two Points of View........................ 287

U

Unal 54

W

Windows, To Photograph Store.............. 64

John Chislett, FIRST PRIZE. Indianapolis, Ind.

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 805 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XVI. JANUARY, 1904. No. 1.

THE FOURTH CHICAGO SALON.

Just as I am preparing this issue for the press, the jury has decided the fate of those who submitted pictures for the annual salon at Chicago. It has been to me a specially interesting one, because it is the first time in my life that I had the honor of serving on such a body. Generally speaking, I avoid such a position, preferring to occupy one of greater freedom and less responsibility, not that I am at all averse to being held responsible for my actions, neither will it make any difference when I come to criticize the pictures on the walls, for I will as critic be just as free with my opinions as if I had never been a judge.

A word about the jury in general may not be out of place, and behind them is the Salon Committee of the society, one of the most sensible bodies of men I ever associated with. All are business men, who for love of photography and the society of which they are members undertake this responsibility every year. Their claim for distinction lies in this, that when they enter the committee-room they without exception leave their likes and dislikes behind them, and consider every point simply from the standpoint of the art and the society. They have their pet antipathies just as other men have, but I have seen them a dozen times subordinate these to the welfare of the cause, and the longer I work with them the more I admire them for their big, manly spirit. They are of the West — big, not bigoted.

When they had decided to select a strictly photographic jury, they endeavored to have it representative of all phases of opinion, though unfortunately their plans miscarried a little. However, in Detlefsen, Lamb and Field they found men well known as salon exhibitors, and in Waite one well known to all his acquaintances as a keen lover of nature, who would look for the best in every man's work and not be too hard on his shortcomings. My special function was to raise a row if needful, so as to make it necessary for reasons to be given when the fate of some picture hung in the balance. I think this explanation will possibly make even my detractors forgive my presence on the jury. I got orders to carry "a message to Garcia" and I tried to obey them.

Some eight hundred frames were submitted and of these less than twenty-five per cent were chosen. I regret to say the standard as a whole is not so high as in previous years, simply because some of the best American workers have taken up an attitude that prevents them working harmoniously with local societies. Of course, I refer to the Photo Secession. The members of this body have decided in their wisdom that they can best educate the American public in photographic art matters by working as a unit. They have diagnosed the disease in the photographic body pictorial, have decided on the remedy to be applied, and how the application should be made. Their remedy may be taken or let alone, but if taken must be taken their way. It is the Dowieism of photography, a theocracy in the domain of photographic art, autocracy pure and simple in a republican community.

Much as the committee disliked this un-American institution, they believed that the salon should contain a collection of the works of the Photo Secession, and arrangements were practically completed to this end, but at the last minute so many conditions were imposed upon them that were simply impossible of fulfilment that the loan exhibit was declined. Personally, I am sorry that the works of the members of the Photo Secession will not be on view, but on the other hand I am glad that the society has been forced into an independent course and I have faith in the near future that an art-loving photographic body on purely democratic lines will occupy the field now usurped by this close organization. Their motives are undoubtedly admirable, but I detest their methods.

In February and March issues I will reproduce over two dozen of the exhibits, principally by new winners of salon honors, and my opinion of the selected pictures will then be given.

F. DUNDAS TODD.

MONTHLY PORTRAIT COMPETITION, OPEN TO PROFESSIONAL PHOTOGRAPHERS ONLY.

During 1903 it was my pleasure to talk on art principles before half a dozen photographic conventions. Wherever I went I found every one anxious to learn just where he stood, and I was frequently asked if I could not devise some plan whereby a photographer could get an unprejudiced estimate of the pictorial quality of his work whenever he desired it.

After considerable thought I have decided that the simplest way is to hold a monthly portrait competition open to professionals only. No prizes beyond the honor will be awarded. The first, second and third best will be reproduced each month with criticism by myself, and all others will be classified under "Honorable Mention," "Commendable" and "Also Ran." No names will be printed, only initials or *noms de plume*, so that only the sender will know his rating.

Whenever a competitor wants a private suggestive criticism, it will be sent him on payment of $1.

RULES.

1. Only one print to be submitted in any one month, and this must be from a negative made in the ordinary course of business within sixty days of the date it was mailed.
2. The pictures will be judged on the first day of each month, and all prints received prior to that date will be included.
3. Requests for private criticism, accompanied by fee of $1, may be sent along with the print and will be answered after the judging is over.
4. Mark outside of package with the words "Portrait Competition."
5. Prints are not returnable.

PICTORIAL COMPETITION No. 67.

Not so many years ago the first prize would have been awarded to any one of thirty prints entered in this competition, so, to have as careful judging as possible, I got seven of the principal newspaper artists in Chicago to join with the regular men to pick out the winning prints. One rather interesting incident occurred when the pictures were laid out. Gus Horlin, one of our most enthusiastic competitors for many years, is spending the summer, autumn and winter in Sweden, and from that far-off land he sent in a few prints. Now it so happened that one of the judges hailed from the district depicted in one of the views, and on its being presented he called out, "Why, there's the old swimming hole I learned to swim in when I was a boy. I vote this picture gets first prize." The others realizing he was biased in his judgment stood him up in a corner and forbade him to express an opinion on the subject one way or another. I presented him with the print after all was over and he insisted that he had drawn the first prize, no matter what the others thought. Mr. Horlin I know will be glad he made one man happy.

The following are the awards:

First Prize.— John Chislett, Crown Hill, Indianapolis, Indiana.

Second Prize.— J. H. Field, Berlin, Wisconsin.

Third Prize.— G. Mannel, 40 Montgomery street, San Francisco, California; W. H. Porterfield, 100 Lake View avenue, Buffalo, New York.

SPECIAL MENTION.

A. H. Moberg, Louis Fleckenstein, J. L. Tanison, A. S. Goss, R. E. Berger, J. B. Watson, Gus Horlin.

PARTICULARS OF WINNING PICTURES.

First Prize.— Taken September at 9 A.M. on a wet, foggy morning. Stop 3, exposure 1/8 of a second, on Cramer Inst. Iso. Plate, printed on Willis & Clement's Platinotype.

Second Prize.— Taken October 31, at 9 A.M. on Cramer Iso. Med., D. C. plate, single lens, largest stop, exposure 1/2 sec. Printed on Willis & Clement's Platinotype.

Third Prize.— Mr. Mannel says his negative was made on Eastman film. He gives no further particulars, and Mr. Porterfield sends none at all.

CRITICISM.

It is only in recent years that photographers have begun to realize the pictorial qualities of a misty morning. The enshrouding vapor gives a simple tonality that makes the rendering of fine gradation much easier than with the ordinary sunlit landscape, where one has to contend with false color values as given by the ordinary plate. The beginning and end of winter are the times for these effects, and I would urge every camera worker to be on the watch for the few rare mornings in February when we have not only the foliage laden with hoarfrost, but very often the whole atmosphere of a soft gray, through which the rising sun will too soon force his beams and melt into nothingness the fairy scene. Plateholders should be kept charged at this season, and the outfit be ready for use at a moment's notice, for neither time, tide nor the sun wait for any man.

A. S. Goss, Toronto, Canada.

Mr. Chislett has caught this foggy effect very well, and while his composition tends to symmetry, the winding brook and the bush to the left help to give variety.

In Mr. Field's picture a very commonplace subject is made alive with a little touch of human interest, and one can build up quite a little story of a struggle for a living with only vague, misty prospects ahead. In all probability it is just as well that such a one can not see farther into the future than he does, for the cares of to-day are doubtless as numerous as he can bear.

In the third-prize pictures we have landscape simply. In both the composition is good, the spacing being full of variety. Both have good lighting, and in both the eye is carried right into the picture, in one case by spots — water, cow, house — in the other by the roadway.

F. DUNDAS TODD.

FUTURE COMPETITIONS.

Competition No. 69 — Pictures of children under seven years of age, not necessarily portraits. Closes January 31.

Competition No. 70 — Lantern slides, any subject. Closes February 28.

Competition No. 71 — Snow pictures. Closes March 31.

Competition No. 72 — Waterscapes. Closes April 30.

Competition No. 73 — Branch of a tree without leaves, with special consideration of decorative effect. Closes May 31.

Competition No. 74 — Domestic animals. Closes June 30.

Competition No. 75—Genre pictures, or pictures that tell a story. Closes July 31.

Competition No. 76 — Branch of a tree with leaves, with special consideration of decorative effect. Closes August 31.

Competition No. 77 —"At Home" portraiture, that is, portraits not made in a studio. Closes September 30.

Competition No. 78 — Snap-shot pictures. Closes October 31.

Competition No. 79 — Landscapes. Closes November 30.

Competition No. 80 — Flower pictures. Closes December 31.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else.* The outside of the package, in addition to our address, may bear that of sender. Accompanying a letter or postcard should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.

2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.

3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.
Second—Books to the value of $2.50.
Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

A SENSITIVE IRON PAPER DEVELOPED WITH SILVER.

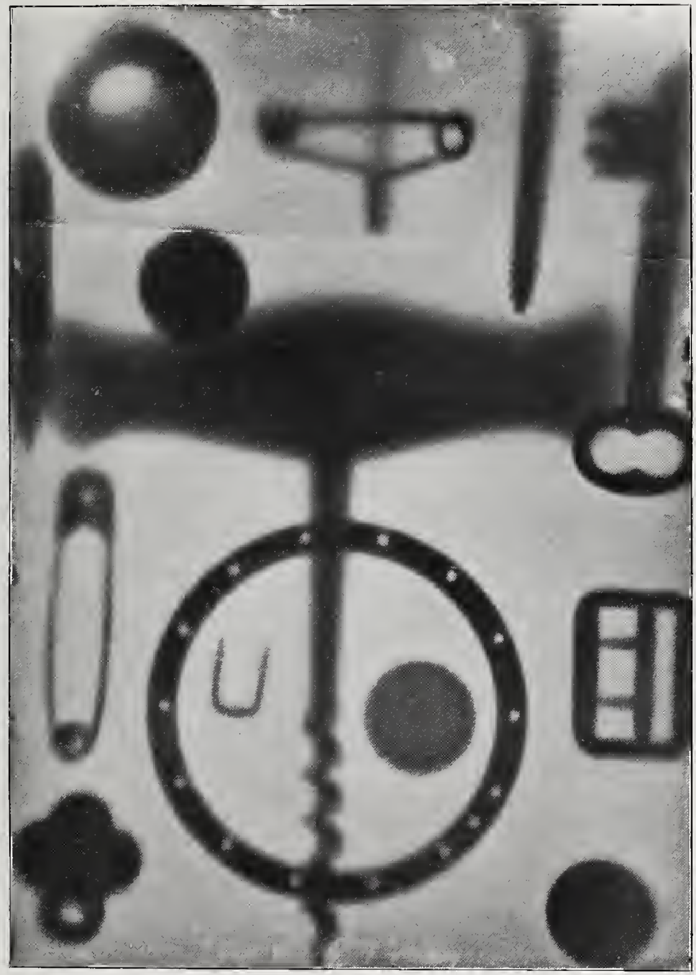
Professor Namias *(Bulletin de l'Association Belge de Photographie,* 1903, p. 512) describes a paper which involves the same principle as the Kallitype, an image being formed in ferrous salt on a paper charged with a ferric salt, and this ferrous salt produces an image in silver by the local reduction of the metal. Professor Namias points out that his paper is not really new in kind, but the instructions now given are to make it easy to obtain first-class results. The paper is coated with the following:

Water	100 c. c.
Ferric chlorid	20 grams
Oxalic acid	18 grams
Gelatin	5 grams

After brushing this mixture on well-sized paper the sheets are rapidly dried in the dark. After exposure in the printing-frame the paper is immersed in a solution of ammonia containing two per cent of silver nitrate, when the image appears rapidly, but the whites are tinged yellow at this stage by the deposition of ferric hydrate. After development, which takes one or two minutes, the print is cleared in a five per cent solution of oxalic acid. When the yellow tinge has disappeared, washing in water and treatment in a five per cent hypo bath is necessary; after comes the final washing. The prints tone readily in an alkaline gold bath.

RADIUM.

The scientific and medical world is now deeply interested in the new, rare and wonderful substance known as radium. As yet radium has not been isolated as a metal, but is produced as a chemical, either as a bromid or chlorid. It is obtained from pitchblende, which is a comparatively rare ore. Up to the present writing it has been found in small quantities in Bohemia and Saxony in Germany; Caldwell, England, and Colorado and Texas, in the United States. In 1789 a German chemist named Klaproth separated uranium from pitchblende, and since that time it has been used more or less in medicine and in the arts. However, it remained for Becquerel, a noted French chemist, to discover that uranium had certain properties similar to the X-rays. One day in 1896 he left a photographic plate exposed to some uranium salts. On top of the plate he laid a key. A



Radiograph, taken with radium of 300,000 radio-activity. The tube, containing one-sixth of a grain of radium bromide, was suspended three inches above the plate for ten hours. Stanley plate used, covered with black paper, on which rested corkscrew, perforated steel ring, safety pin, tack, penny, key, screw, curtain pin, etc.

few days after when he developed the plate he found on it the image of the key. It seems that the uranium sent out certain radiation which decomposed the silver salts on the photographic plate. Following along this line of experimentation came the investigations of Professor Pierre and Mme. Curié. In making some experiments with Becquerel's rays (as they are now called) they used a superior specimen of pitchblende as an excitant, and found its radio-activity was four times as great as any preparation of uranium they had previously used. In making this test they considered uranium the standard for radio-activity. Their conclusions were that there must be some other substance in pitchblende than uranium. Their surmise was eventually verified, for after two years of painstaking experimentation they first discovered polonium, a radio-active substance, named in the honor of the native country (Poland) of Mme. Curié. In 1899, a year later, they discovered radium in minute quantities. In fact it has been said that " radium is as rare in pitchblende as gold is in sea water." It takes one ton of pitchblende to supply one grain of radium. From the above data one can realize that radium is a very rare and expensive chemical. Pure radium is now manufactured by the Societie Centrali of Paris at $600 a grain or $4,000,000 a pound. The German preparation is just as active and sold at a somewhat less price. The tubes of radium which I am fortunate in possessing are of German manufacture. One tube contains ten millograms, or one-sixth of a grain, with a radio-activity of 300,000. The other tube contains one gram of radium and barium bromid, with a radio-activity of only 15,000.

PHYSICAL PROPERTIES.

Professor Curié states that radium is one million times as radio-active as uranium and emits the same number of Becquerel rays 300 degrees below zero, as it does in the ordinary temperature. He also affirms that it maintains its own temperature from three to five degrees above the surrounding air, giving off enough heat to melt its own weight of ice every hour. The remarkable phenomenon about radium is that it gives off radiations of light (and invisible rays) and evolves heat constantly without an apparent source. These evidences of energy go on for an indefinite period, leaving the radium at the end of several months' use as potent as it was in the beginning. Even after long periods of activity radium shows no microscopical, spectroscopical or chemical change. Radium has some of the penetrative properties of the X-ray. This is evidenced by its power to penetrate opaque substances and produce shadowgraphs on the photographic plate. These pictures, however, take many more hours of exposure than do the X-rays. Sir William Crooks says that radium emits three forms of rays: First, those identical with the cathode rays; second, rays of true atoms — positively electrified; third, rays which are very penetrative and thought to be identical with the Roentgen rays.

PHYSIOLOGICAL EFFECTS.

Radium certainly possesses marked physiological properties. If a tube containing a small quantity of radium is left in the vest pocket or exposed to the skin for an hour or two it will produce an inflammation of the skin similar to an X-ray burn, and at the end of ten days or two weeks its full physiological effect will be felt. In this case an ulceration may occur which will take from several weeks to several months to heal.

If a tube of highly radio-active radium is attached to the back of a mouse, it will die in twenty-four hours. If radium is inserted beneath the skin of a guinea pig, it will prove fatal in a shorter time. Curié suspended one grain of radium in a cage of eight mice. They thrived well for five days, when their fur began to fall out, blindness followed and death of all in from ten to thirty days.

Another interesting physiological effect observed by Giesel, and verified by the author, is that when radium is brought near the closed eyes a sensation of light is produced. Again, in certain forms of blindness, if the eyes are exposed to radium for a few minutes they will experience a glow of fluorescence in the eye. I have now under observation a case of blindness, i. e., optic atrophy. When his eyes are exposed to radium he says he experiences a glow, which, he says, resembles pale sheet lightning. This effect lasts for a half hour. Already his vision is slightly improved, although he has only had ten treatments. Sufficient treatments and enough time has not elapsed to say whether he will receive permanent benefit.

G. Mannel. San Francisco, Cal.

THIRD PRIZE.

RADIUM IN MEDICINE.

Certainly radium presents great possibilities in the field of medicine. This fact is recognized by the few medical men who have been making observations with radium. Authorities, both here and abroad, believe that radium has a positive effect on diseased tissues, and from my personal experience it looks as though its use were indicated in lupus (tuberculosis of the skin) other forms of tuberculosis, superficial cancer and some cases of deep cancer, chronic skin diseases, atrophy of the optic nerve and blindness from other causes. Deep-seated cancers have not as a rule been treated successfully by the X-rays. With radium rays it seems as though we had a new agent, which is more likely to give better results in some of the chronic cases which have heretofore been considered incurable. In treating deep-seated affections, the radium rays can be applied locally or through their emanations (as in consumption), thus having a distinct advantage over the X-rays. From my own reports, and those of foreign observers, I think there is sufficient encouragement to make us feel that we may be on the right road to find a specific cure for cancer and tuberculosis.

Samuel G. Tracy, B.S., M.D.,
New York.

The Illinois College of Photography has now added a photo-engraving department to its equipment and now stands ready to give complete instruction in this branch.

THE CAUSE OF EXPLOSIONS WITH FLASH-LIGHT POWDERS.

Not many years ago it was discovered that when the metal magnesium could be drawn into wire or flattened into ribbon, the light it emitted when ignited in contact with the atmosphere was of such a high actinic character that it could be used for photography, particularly for enlarging purposes, as well as being used to illuminate dark interiors, mines and many other places which hitherto it had been impossible to illuminate sufficiently for photographic purposes.

Several kinds of apparatus had been invented in the form of a self-feeding lamp, which allowed the magnesium to pass by means of clockwork mechanism at a regular speed through the flame of an alcohol lamp, means being provided to convey the white smoke of magnesium oxid through an arrangement to the outside of the apartment.

With such a piece of apparatus the employment of magnesium became perfect as an illuminating agent for many purposes in photography, but where a large group had to be photographed, including perhaps a well-defined interior, the magnesium lamp was useless.

Resort was sometimes made to the burning of the magnesium ribbon or wire without a lamp; this plan, although simple, was uncertain. Then it was found that powdered magnesium could be employed by blowing it through an alcohol flame, giving at the same time a greater volume of light than could be produced by the use of magnesium wire or ribbon.

It was also discovered that, owing to the minute particles of magnesium presenting a considerable surface for the action of the flame and the oxygen of the air, that the light was almost instantaneous, and from this action came the idea of producing instantaneous flash-light pictures.

The combustion of the metal magnesium powder itself not being quick enough, efforts were made to increase the rate of combustion. This was soon attained by an admixture of some chemical containing oxygen which would give the latter off by simple ignition. Nitrate of potash has been used, but this was found to be unsuitable, because, when it became damp, the magnesium was attacked and became in part nitrate of magnesium; the whole compound then became spoiled. The use of nitrate of sodium proved no better. It was then discovered that chlorate of potash formed the most convenient and suitable substance to supply the extra oxygen for the rapid burning of the magnesium, and the so-called instantaneous flash-light powders, sometimes a mixture of potassium perchlorate and potassium chlorate is used, and to aid the rapid combustion of the powdered metal the use of guncotton was introduced.

Many accidents have occurred by using some of these flash-light compounds, in some cases with loss of life.

It does not appear to be generally understood that *all* compounds for flash-light purposes are explosives of a high order and should at all times be handled with great care. Recently some of the compounds of phosphorus have been used in combination with magnesium powders, to aid the brilliancy of the light. The employment of the phosphides with magnesium is as dangerous as the use of the sulphides; in fact, many of these combinations are as explosive as gunpowder, and the line of safety is so small that even in the hands of experienced workers very serious accidents *do* occur.

The reason for this danger is not far to seek, from a chemical standpoint. The affinity between magnesium and oxygen being very great, only a slight rise in temperature is necessary to bring this affinity into action. The result of this rapid combustion is an explosion, in just the same way as an explosion takes place when gunpowder is ignited.

Flash powders have been known to ignite through friction alone, especially if a chip of wood is in the mixture, or a small piece of charcoal or any carbonaceous matter, or even a minute trace of sulphur. If it is desired to see the action of a fine grain of sulphur in combination with chlorate of potash, simply take a few grains of each of the above in powder form, mix them with the tip of a knife, place only a small quantity upon the side of a square iron weight, then strike with a hammer or rub the mixture between two hard substances. A miniature explosion occurs. It will be readily seen from this that if these bodies are mixed with such a substance as magnesium (the latter being a very high electro-positive metal), with its enormous affinity for oxygen, that there is a hidden danger that may make itself manifest at any time. All such compounds as these should be kept in small quantities only.

J. H. Field, Berlin, Wis.

The metal magnesium itself is safe to handle, and with a suitable lamp where it can be blown through a hollow flame, it can be depended upon for rapid combustion; this is the only safe way for employing magnesium by the amateur.

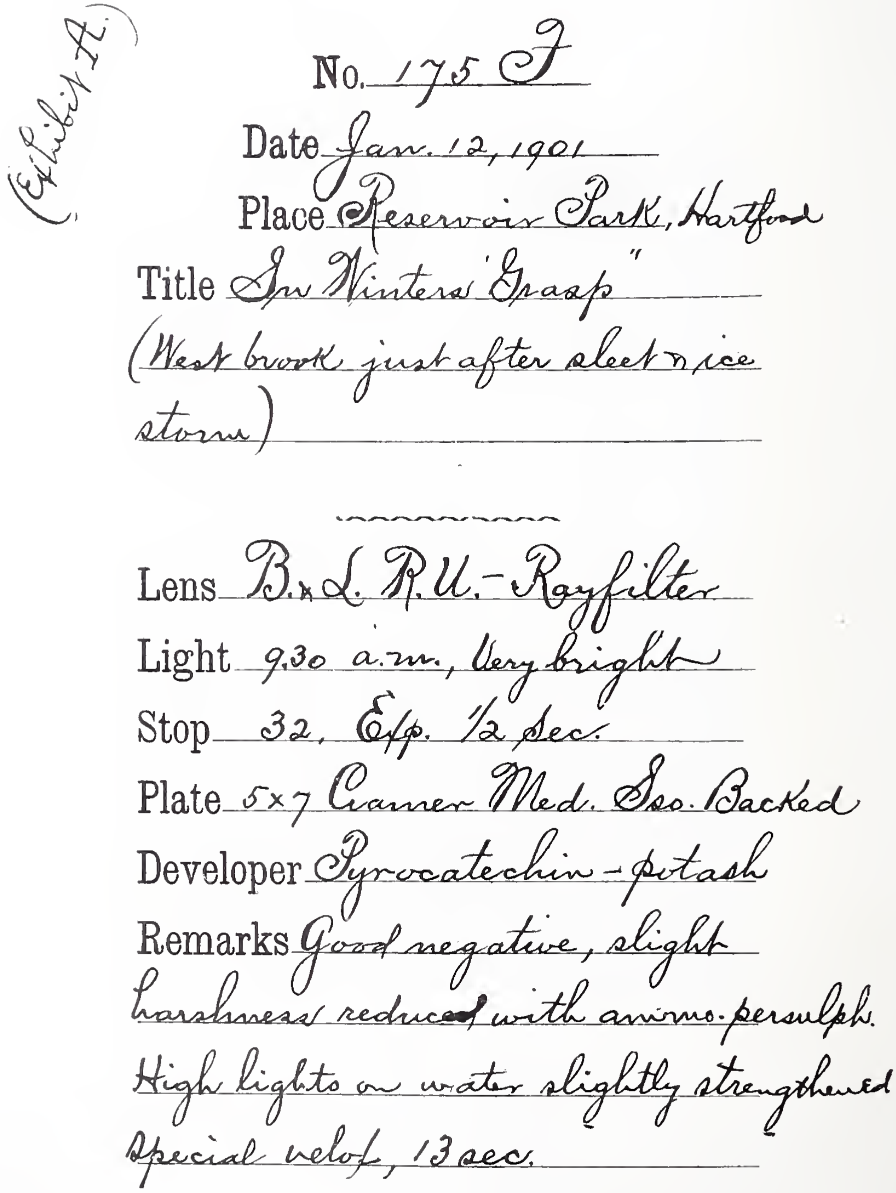
If potassium chlorate must be employed to aid in the production of an instantaneous light, a small quantity only should be mixed just previous to using, the mixing to be done with a *bone* knife, neither hard rubber nor celluloid should be used, because friction alone with these substances always brings about an electrical condition that may prove as effective as heat for ignition.

A. J. JARMAN.

THE Photo-Beacon Exposure Tables are just as good in winter as in summer. Forty thousand sold. Shoals of complimentary letters received, but not one single complaint. Price 25 cents.

A SYSTEM OF CLASSIFICATION AND FILING.

In the course of five years' practice of amateur photography I have operated eight different cameras and have accumulated quite a number of good, bad and indifferent negatives of varying sizes and shapes, a considerable stock of apparatus and a small library of photographic literature.



(Exhibit A.)

No. 175 P

Date Jan. 12, 1901

Place Reservoir Park, Hartford

Title In Winters' Grasp"
(West brook just after sleet & ice storm)

Lens B. & L. R.U. – Rayfilter

Light 9.30 a.m., Very bright

Stop 32, Exp. ½ sec.

Plate 5×7 Cramer Med. Iso. Backed

Developer Pyrocatechin – potash

Remarks Good negative, slight harshness reduced with ammo. persulph. High lights on water slightly strengthened Special velox, 13 sec.

A busy man, with much less time available for pursuit of a hobby than is desirable, I long ago found that through lack of systematic arrangement much of limited and therefore valuable time was being wasted in tiresome search for the article or bit of information I happened to need.

Now all that is changed and this is how it has been accomplished.

My negatives are all kept in manila preservers (envelopes) which I had printed as desired for amateur rather than professional purposes, on each of which is written full data concerning the negative. (See exhibit A.)

Then they were divided by sizes and classified as follows: A, portraits; B, architectural; C, interiors; D, military and naval; E, marines; F, landscapes; G, genre; H, miscellaneous; the last covering all not properly included in the other classes.

The negatives in each size and class were then arranged in chronological order and numbered consecutively, commencing with earliest.

Next a blank book was purchased and ruled and marked as follows (see exhibit B), using separate parts for each size and class.

With the aid of a friendly carpenter, a stout cabinet with six drawers, of sizes and depth admitting of an upright position of negatives, was made, and the negatives, classified by size and character, stored therein.

Where two or more classes are put in one drawer a card slightly longer than the negatives serves to separate them, the arrangement being like the familiar businessman's or library card index.

A card on each drawer front shows what is contained therein.

The cabinet should be strongly made, especially the bottoms of drawers, to support the weight of so much glass; should be as nearly dustproof as possible; be kept in a dry place, and may be as large or small and plain or ornamental as purse and fancy dictate.

Now for the application of the system. Desiring to use a negative I turn to the index of its class and size, run down the column of titles or dates, note the number, pull out the drawer, and I have it. These proceedings occupying a few seconds only, whereas formerly to find a particular negative was never less than a ten-minute job.

Of course much of the data here given may be omitted from the index, it being fully written on the manila preserver, and only the class, number, date and title put into the book, but I preferred to have it all in both places.

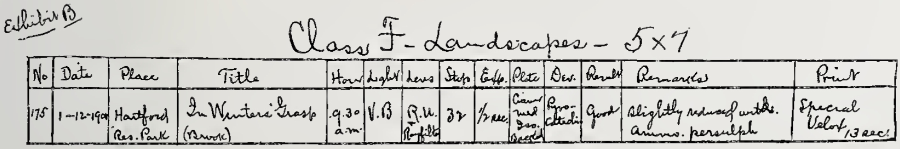


Exhibit B

Class F - Landscapes - 5×7

No	Date	Place	Title	Hour	Light	Lens	Stop	Exp.	Plate	Dev.	Result	Remarks	Print
175	1-12-190	Hartford Res. Park	In Winter's Grasp (Brook)	9.30 a.m.	V.B	R.R. Ray filter	32	½ sec.	Cramer med. Iso. Backed	Pyro-acetone	Good	Slightly reduced with Ammo. persulph	Special Velox, 13 sec.

I subscribe to some magazines, buy others occasionally, together with all the annuals, and read all the photographic literature possible.

This is how I classify and index the information given therein.

Blank index books were purchased, one each for "Exposures," "Development," "Intensification," "Printing Methods," etc. These may be unlimited in number and size, according to special requirements, and entries therein are about as follows:

CHOICE OF SUBJECTS.

PHOTO-BEACON, July, 1900, p. 198, "Children."

PHOTO-BEACON, January-December, 1900, "Artistic Landscape" (serial by Hodge).

Photo Era, October, 1900, "Children."

RETOUCHING, ETC.

Camera and Dark Room, July, 1900, "Spotting Out," Newcomb.

Examples such as these might be multiplied indefinitely, but the above suffice for present purpose.

With these indexes I find readily all the literature on any subject that for the time being is of special interest.

If it is a negative to be reduced here I find and compare the practices of those who know how, and I can select what seems best without wading through book after book in tedious search for something bearing on the subject in hand.

Occasionally a journal will contain but one or two articles that interest me, or that I care to preserve, and in such cases I cut out what seems desirable and paste the same into a set of scrapbooks, also classified, in which I also keep platemakers', papermakers' formulas, etc.

By means of these aids I can instantly lay hands upon any bit of apparatus or printed photographic matter that I possess, *except* prints, of which my family and friends leave me but few, and those seem to be usually the least desirable of my collection.

ROBERT D. STEVENS.

IMPROVEMENTS IN SENSITIZING CARBON TISSUE.

A RECORD OF SOME EXPERIMENTS IN PRINTING WITH BICHROMATES.

Although the carbon process is the ideal method of printing for the pictorial photographer, there have been serious obstacles to deriving the full advantages from it in the hands of the ordinary small user that do not apply to those who work on a larger scale.

The first of these objections has been the absence of keeping qualities in sensitive tissue. It has been known for a long time that if tissue were kept absolutely dry it would remain in fair condition for several weeks, and the introduction of the Autotype Company's storage box, in which tissue is kept flat and the air dried by means of calcium chlorid, was a step forward; but, unfortunately, tissue so kept is much more difficult to work satisfactorily than when first manufactured, especially if development should be prolonged. Instead of the tissue dissolving easily as it would do if perfectly soluble, it appears rather to break away from the image with difficulty.

An obvious remedy is to sensitize tissue for one's self as it is required, this plan allowing us to keep a varied assortment of colors and to select, just when wanted, one or more pieces of any particular color, thus imparting more variety to our work than any other printing process will allow. The objections to this method of working, however, are more serious than those that apply to using tissue sensitized in the course of manufacture. Tissue sensitized in a bath is in every respect inferior to that made sensitive originally; it is much more difficult to work satisfactorily, being much less soluble; its keeping qualities for the same reason are practically nonexistent, and — the most important objection of all — the resulting prints are very inferior in gradation and brilliancy. Added to these objections is the trouble of drying successfully, for, as the drying conditions depart from the ideal, the difficulties of working increase, and the quality of the prints obtained still further declines.

In using the word "brilliancy," it must not be understood to imply "contrast." The loss of brilliancy referred to is not the absence of contrast that might be caused by using a sensitizing bath much too strong; if this were the only cause it could be easily rectified by sensitizing in a weaker solution, but it is a character that the prints retain, however weak the sensitizing bath may be. It consists essentially of the weakening or loss of the gradations in the lighter portions of the picture, those details that should be represented by light but well-marked gradations being instead simply a flat mass of gray with scarcely perceptible variation; or, if the printing should be stopped at an earlier stage, a flat white devoid of gradation, and a generally weak print will result instead.

Considering that one of the essential qualities of the carbon process is its fine gradation, both in the extreme lights and in the deep shadows, this loss is the more noticeable; and, in some subjects particularly, the contrast in quality between a print made on tissue sensitized in course of manufacture and one on tissue sensitized by immersion is so great that no one making the comparison would use ordinary bath sensitized tissue if the ready sensitized were available, especially as this loss of quality is accompanied by so many other objections.

As sensitizing is, in itself, such a simple operation, and the ability to secure thoroughly good results on home-sensitized tissue would confer so many advantages on the small worker, not the least being the opportunity of keeping a stock of insensitive tissue of various colors, including those not readily obtainable sensitive, and preparing any assortment desired for the day's printing, I have been making a number of experiments for some time past, my object being to so sensitize commercial tissue that it should possess, if possible, the following qualities:

First. In gradation and quality of finished result it should be equal to that sensitized in making. This is the most important qualification of all, since without this the other qualities are comparatively valueless.

Second. In solubility and ease of working it should compare reasonably with ready sensitized.

Third. It should be, as far as possible, independent of the conditions of drying.

It is useless to describe the experimental work involved or the substances tested before successful results were obtained, but I will give my conclusions and notes on the substances selected and their influence on the result, and the method of working consequently suggested.

Potassium Bichromate. Although other chromium salts have been tried, none have worked so satisfactorily as potassium bichromate. That used has been pure granulated, supplied by the Autotype Company as especially reliable and suitable for the carbon process.

Tissue has been sensitized by immersion in plain solutions of potassium bichromate varying in strength from one to four per cent, and the utmost care taken to insure the most satisfactory drying. In all cases the resulting prints have been very inferior to those obtained on tissue sensitized in making, principally in brilliancy and gradation, as previously described. Although the contrast in the prints was greater when the weaker solutions were used, yet, in all cases, the character was the same; the lighter gradations merged into one flat gray with little variation, though the total contrast in the print might be fully equal to that given by ready sensitized tissue. In addition, the tissue has always been much more difficult to work; it has been much less soluble and the backing paper very troublesome to remove.

Among the various substances added to the sensitizing bath with the object of improving the quality of the tissue in working and also in the resultant prints, the following are those most worthy of attention.

Neutral Potassium Oxalate. The addition of this salt has been suggested by Professor Namias for conferring keeping qualities, but as my work has been directed solely to obtaining good results on tissue used soon after sensitizing, and as this salt is distinctly inferior in this respect to other substances that I had used, it has been discarded.

Sodium Carbonate. The results obtained by adding sodium carbonate to the sensitizing bath have been very promising, and for some special cases equal to those given by any other substance. The quantity that could be added with success required gauging very carefully, as it was found that if sufficient to insure solubility and easy working were used, other difficulties were introduced; and, as a much smaller quantity woud give improved gradation, another addition was made in combination with sodium carbonate to secure good working qualities, which will be described in a later paragraph. The effect is to lengthen slightly the gradations at the light end of the scale.

Potassium Carbonate is very similar in its effect to sodium carbonate; a smaller proportion is sufficient to produce the same degree of modification.

Neutral Potassium Citrate. This salt has been added to the sensitizing bath by Professor Namias for conferring keeping qualities; and in testing it for my purpose — securing improved gradation — it was found to have a very marked effect. Used alone, however, the general working qualities of the tissue were no better than when a plain neutral solution of bichromate was used, but these qualities were easily secured by a further addition to the solution.

Sodium Citrate may be substituted for the potassium salt; the differences are inappreciable.

Citric Acid. Although from the conditions recognized as being essential for the successful working of carbon tissue, especially when bath sensitized, this salt appears to be one of the least desirable additions to the sensitizing solution, yet it has given the best results in every respect. A small proportion produces a decided difference in gradation; the results can therefore be easily controlled or modified.

It has been stated in a preceding paragraph that the inherent defect in bath sensitized carbon tissue is the loss of gradation at the light end of the scale, the general effect being that which would be produced by exposing tissue to light and so fogging it or degrading its purity; and this gray veil robs the lighter tones of all their value, gradation, and brilliancy, and it still remains even if the portions of the print protected by the safe-edge are quite clean. By no care or precautions in drying have I been able to overcome this defect, and those most experienced in working the carbon process have invariably stated that bath sensitized tissue is distinctly inferior to that sensitized in course of manufacture. It has been this defect more than any other that I have endeavored to remove, and the results obtained are not only thoroughly satisfactory, but from the data given they can be modified by each worker as he may desire.

Taking the substances named, potassium oxalate may be dismissed, and the others may be placed in the order in which they have been described, sodium carbonate producing least effect, and citric acid being unquestionably the best, and also offering the greatest power of control. It is absolutely essential, however, to neutralize, or more than neutralize, the acidity of the solution; and the method of obtaining an akaline bath is the determining factor in securing good working qualities.

Ammonia. I have only succeeded in sensitizing tissue that would be as satisfactory in its ordinary working qualities as freshly made sensitive tissue, by making the sensitizing solution alkaline with ammonia, whatever substance had been added for modifying the gradation. Although various degrees of alkalinity have been tested experimentally, that which has been found to be the most satisfactory and the most simple to determine has been to add ammonia to the sensitizing solution, after all the other ingredients have been dissolved, until the orange-red color of the bichromate changes to a lemon yellow; and the smallest possible quantity of ammonia that will effect this change should be used. This amount will vary with the different substances or quantity of such substances added. In my earlier experiments with the carbonates, sufficient of these was added to the solution to effect a similar change, as the value of this condition of the bath was recognized; but, in all cases, the results obtained were very inferior in many respects to those resulting from a smaller proportion of carbonate with sufficient ammonia added to complete the change.

For obtaining good working qualities — solubility, freedom from brittleness in developing, etc.— the value of ammonia can not be overstated; and although its full effect is most noticeable when added to a strong solution of simple bichromate — the most unsatisfactory sensitizing bath — yet its efficacy does not appear to be impaired by any of the substances given in this article, but as they modify the tissue, the effect of the ammonia has to be examined carefully by comparative tests.

In all the following formulæ the quantity of ammonia represented by x is determined by the method given in the paragraph on ammonia.

SENSITIZING FORMULAE.

A.—Potassium bichromate	....	1 ounce
Citric acid	....	¼ ounce
Ammonia	....	x
Water	....	50 ounces
B.—Potassium bichromate	....	1 ounce
Citric acid	....	½ to 1 dram
Ammonia	....	x
Water	....	50 ounces

C.—	Potassium bichromate	1 ounce
	Potassium citrate	½ ounce
	Ammonia	x
	Water	50 ounces
D.—	Potassium bichromate	1 ounce
	Sodium carbonate (crys.)	½ ounce
	Ammonia	x
	Water	50 ounces

In all cases the solids were dissolved separately and their solutions mixed.

The solutions will keep well in stoppered bottles. As a small quantity can be used if the tissue is kept flat — four or five ounces for six pieces 8½ by 6½ inches — the used solution should be thrown away, or a large quantity may be taken and used several times if fresh stock solution is added each time. A solution used too many times will give uncertain results.

These formulæ work well with Auto-

J. H. Field, Berlin, Wis.

SECOND PRIZE.

type, Barnet and Illingworth tissues. For Wellington, which is very soluble, the quantity of ammonia should be reduced to one-third of that given. A quantity of solution should be taken and ammonia added as directed, and twice its volume of stock solution without ammonia added to it. The tissue so sensitized will work in every respect similar to the other brands named with the full quantity of ammonia.

RESULTS AND CONCLUSIONS.

For general work solution A should be used, as it secures the finest possible gradation in the lighter work, a full scale of tones, good shadow detail and contrast without harshness. From a negative suitable for carbon printing a rich print can always be obtained, as the tissue should be very uniform in quality and condition at the time of using. The difference between the various formulæ is entirely in the gradation resulting in the lighter tones. Solutions B or D may be used for under-exposed negatives in which the lighter tones are relatively too strong or harsh, or for any work when the gradation at the light end of the scale is too strongly marked and requires softening down. Solution C gives a result similar to B with the larger quantity of citric acid. Formulæ A and B are preferable to C and D.

The proportion of water may be varied according to the degree of contrast required, a stronger bath giving less contrast and vice versa. This strength will be found best for general work.

The method of sensitizing adopted has been to immerse the tissue face downward in the solution for ninety seconds, then lay it face down on a sheet of glass and squeegee gently to remove as much solution as possible, and if any surface moisture should remain on the back rapidly remove it with blotting paper; then lift it by two corners and gently pull it from the glass, attach it by pins or clips to a lath, and hang it to dry.

Drying. Tissue sensitized by these formulæ is practically independent of drying conditions, provided that it dries within a moderately uniform time, from four to six hours. *Gas in the drying-room has little or no effect.*

In general working the tissue has been in the highest degree satisfactory, and very pleasant to use after working ready sensitized tissue that had been kept in a box with calcium chlorid. It is extremely soluble, dissolving very gently and easily at a temperature of 100 degrees; the backing paper is very easily removed after a few seconds' immersion in the developing tank, and there is not the slightest tendency to blister, nor break, nor to produce any mechanical defects even when development is very prolonged.

In almost all cases the tissue has been sensitized at night and used the following day, and no special precautions have been taken between drying and using, the tissue being simply put in an ordinary cardboard plate box. As an experiment, some was left freely exposed to the air for eight to ten hours after drying, and no difference could be detected.

As most of this work has been done during the present summer, the wet weather has been a severe test of the efficacy of the methods adopted, both in regard to drying the tissue and its after working.

Speed. Tissue sensitized by the solutions given is considerably slower than that sensitized in the plain potassium bichromate bath, but the gain in quality more than compensates for the loss of rapidity.

Although commercial tissues differ so much in speed when purchased sensitive, yet when sensitized on these baths they are all practically identical, excepting the new matt-surfaced tissues, which require only three-fifths of the exposure of the ordinary kinds. Black tissue will be approximately the same speed as Ilford P. O. P. when sensitized in bath A, so that if a narrow strip of this paper is placed along one side of the negative, it may be printed until the light tones are just as dark as required in the carbon print, and an actionometer dispensed with. Brown tissue will require rather longer exposure than this, about one-fourth, and red chalk about one-third longer than black, or until the silver strip is dark enough for toning.

Formulæ B, C and D yield a tissue slower than that produced by A, the proportionate exposures necessary being approximately A=4, B and C=5, D=6.

Keeping Qualities. I have tested the keeping qualities of tissues sensitized on these baths, always sensitizing a piece in a plain solution of potassium bichromate, and keeping under identical conditions for comparison. The method of storing has been under the pressure of an ordinary printing frame — a method that would be effective with ordinary P. O. P. for many weeks. Ten days has been the test time, and although the results with some sensitizers have been superior to that given by the simple bichromate solution, yet in no case have the prints been so good or as clean as on freshly sensitized tissue. The "safe-edge" has always been degraded, and the prints poor in quality. The solutions containing ammonia have been the most satisfactory, though far from good.

Albert H. Moberg, Chicago.

Desiring the best results in my own work, I have never been willing hitherto to use any other than ready sensitized tissue; and my object in these experiments has been to determine a method of bath sensitizing that should give the finest possible quality in the resulting prints, a power of control in character and contrast impossible in ready sensitized tissue, satisfactory working qualities, and uniformity. The results have been so eminently satisfactory that they have completely revolutionized my own practice; they are fully equal to those given by ready sensitized tissue at its best.

There are so many self-evident advantages in keeping a stock of various colors and kinds of tissue and sensitizing to suit the requirements of the moment that the method of working here given will probably be as valuable to others as it has already proved to me. One of the greatest disadvantages of the carbon process to all excepting those who work on a large scale has been the inability to secure their sensitive material in the best possible condition, especially when small quantities or several colors were required.—*Photography.*

H. W. BENNETT.

PHOTOGRAPHY AS A PROFESSION.

(A talk at the Virginia and North Carolina convention.)

Do we, as photographers, regard our profession as a profession in the same way and to the same extent that the doctor, the lawyer or even the dentist does? I think you will agree with me, gentlemen, that we do not. Are we as proud of our profession as the M. D. or attorney-at-law? Again I answer "No." Of course, some of us have not achieved enough to be proud of. I have seen work in nearly every town of any size that I do not see how the maker of it could feel proud of his productions, in fact I should not want to own that I had made such stuff, and yet, in large bold letters of gilt were the words emblazoned "Art Gallery." No wonder the artist with the brush did not want to hear such stuff called art and hence it took the oil painters many years to even admit that a photograph might be a work of art. Under such conditions could you blame him? No.

Now, to get back to the subject, why do not photographers, as a body, recognize photography as a profession? Why do they place so little esteem upon it and have so little regard for it? Answer: It is because they have put so little into it.

A great many photographers blundered into the profession; they did not ever choose it for a life's work, but mere circumstances caused many of them to take it up temporarily, and then circumstances over which they had no control kept them at it.

Now, listen to me! Imagine a physician practicing medicine and surgery, or a lawyer practicing law, who, just owing to circumstances, blundered into his profession. You ask the doctor or lawyer how he came to be in his profession and he will tell you, "I went to college four, five or six years, then stood a rigid examination, passed, got my sheepskin, put out my shingle and now I am a doctor or lawyer," as the case may be. Ask him if he respects his profession and he will reply, "Yes, sir, I do." You see, he first *chose* his profession for his life's work, and spent years to fit and qualify himself for that work. No wonder he honors his calling; it cost him something and he stands by his profession, and so they had laws passed to compel others who would choose the same profession to also stand a like examination and so he, too, honors the profession. It cost him something and he feels proud to say, "I am a lawyer or a doctor."

Why should not photographers enter their life work through the same gateway? First by acquiring a college education and then being made to pass a rigid examination before being allowed to practice photography? Here let me make a prophecy that inside of the next decade this will be the state of things, and in the near future we fellows who blundered into the profession may be granted a permit to follow the procession, but the next generation of photographers will be protected by having to pass an examination before entering the grand profession of photography. Until this is done, and until men recognize the magnitude of photography and the possibilities of the art, it will never be properly respected, and how can we expect the public to respect it more than we ourselves do? Until we respect ourselves we can scarcely expect others to respect us. Now we need to think more highly of our profession; in fact, we need to build ourselves up until we can constantly think more of ourselves.

A few years ago a young man entered into a studio in our South land to learn the art and science of photography. His good mother, who lived in a rural district and had seen but little of photographers except a "quack" occasionally, thought that her son was taking a step downward, and accordingly she wrote a warm letter to the photographer and demanded that he send her son home at once, as she wanted him to choose a more honorable and elevating calling than that of photography. She had gotten the idea that, of course, all photographers were like those she chanced to know, and who could blame the mother for wanting her boy to aspire to something higher and nobler than they had.

Here is a lesson for us. Let us look to our own personal appearance; in fact, I think we might stop for a moment and consider the personnel of the photographer. His individuality and his personal appearance have much to do with his standing in a community, and his standing has much to do with his success. The photographer who keeps himself and his studio neat and clean, dresses well, looks after every detail, keeps only the best company and makes something over and above a bare living will surely stand higher than the untidy and careless, slop-shop worker who has always a gang of loafers around his place of business. His patrons will be of his own kind and *yours* will be of *your* kind. Now, what kind of patrons do you want? Do you want the best? (They usually pay the best.) If so, do your best to *be* the best.

Some will ask, "Why go to all this trouble and expense to get a college education just to be a photographer?" I will answer that by asking why should a doctor or lawyer first acquire an education before beginning his profession? Is our profession of less merit than his that we should begin without preparation? And they spend years of hard study and research in order to become qualified to successfully conduct their business. It is just as essential to our success as it is to theirs. Higher mathematics may not be needed in your business, but it is important in developing your mental faculties and training your mind, as exercise would be to develop your muscles. The athlete must continually practice if he would be perfect, but it is needless for me to follow this thought further. I will leave it to you to think about. I may not help you, but I do hope to be able to help you help your sons and daughters who may enter the profession of photography to recognize the importance of laying well the foundation on which to build if they would be successful artists in this educational twentieth century in which we live. I wish that every one here might have the privilege of coming in touch with the men who attend the national conventions, men of culture, men of learning, men of brains, then you, with myself, would see the importance of being qualified, in the highest sense of the term, to become the more successful.

Allow me to thank you, one and all, for your kind attention and indulgence that you have given me in listening to such a dry and unprofitable talk from one so unfit to even attempt to interest this intelligent audience. Again I thank you. O. W. COLE.

AN AID TO ACCURATE FOCUSING.

Doctor Hinterberger, in a recent issue of the *Photographische Korrespondenz,* emphasizes the advantage of cementing a few circles of this microscopic glass to the ground glass surface of the focusing screen, Canada balsam being used as a cement. In this way clear or transparent circles are formed on the ground glass, and in their places the worker gets the advantage of the so-called aerial focusing with or without an eyepiece, the adjacent roughness of the screen preventing that accommodation of the eye which is ordinarily so disturbing to aerial focusing. As an aid to fine focusing, as in copying line engravings, the above expedient is extremely useful.

HINTS ON LENSES.

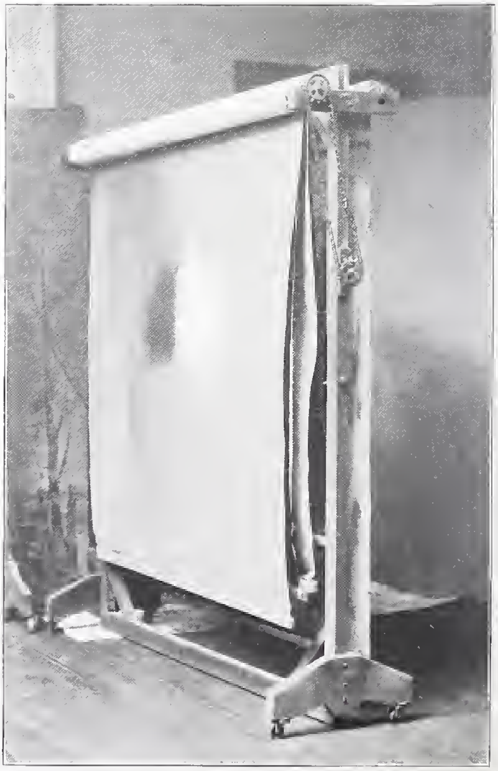
(Reprinted from Messrs. J. H. Dallmeyer's pamphlet, "About a Lens.")

Always keep your lenses "capped" and away from even diffused daylight when not in use. Prolonged exposure to light has the effect of yellowing glass and causing the lens to become slower in action. If a lens has become dusty, first remove all the dust you can with a camel's-hair brush, and then carefully wipe with a clean but old and soft cambric handkerchief. Never attempt to polish the surfaces of a lens with any material. Lenses should be kept as much as possible in a dry atmosphere, and guarded against sudden changes of temperature, otherwise some kinds of glass are liable to tarnish, or, as it is technically termed, to "sweat." Whenever any moisture becomes visible upon any surface, at once remove it by wiping with a soft cambric or old silk handkerchief; otherwise resort to wiping only when particles of dust adhere so firmly to the glass that they can not be removed by a brush. Minute specks or air-bells in the glass of a lens are practically no detriment to its working, as they merely stop an infinitesimally small quantity of light. The most serious defects in glass, striæ, or bad annealing, are invisible to the untrained eye, but materially affect the defining power of a lens. No optician should allow a lens possessing either of these defects to be issued. Striæ may be discovered by focusing the lens in the camera upon a bright light in a darkened room, then removing the ground glass and placing the eye in the position of the image of the light, and looking at the lens. It will be found to be "blazed" with light, and if striæ or veins are present they can be detected. Badly annealed glass can only be detected by polarized light and a Nicol's prism. Never point the lens toward a brilliant sun without shading it from the direct sunlight, as there is danger of reflected images. In the case of "sunsets" and any subject that the human eye can view comfortably, the precaution is unnecessary. As a general rule, however, the more carefully and completely a lens is shaded the more brilliant will the result be.

A BACKGROUND CARRIER.

I have an apparatus of my own manufacture which may be of considerable interest to your readers, especially the professional photographers. I have not got a patent on it, nor do I wish to get one, nor yet do I wish to have any one else get a patent on what I have been using for the last ten years at my home and for about three years at my studio.

I have reference to an inexpensive yet substantial and useful background carrier. In my carrier I used an ordinary frame made from 1¾ by 4 inch pine when dressed and finished, size of frame to suit background. My grounds are six feet wide and seven feet long, so I made frame 6 feet 6 inches wide and 7 feet high, well braced at each corner, with good substantial feet, projecting not less than a foot on each side of frame. At the top I have cross arms 1¾ by 2¾ by 15½ inches, bolted one on each side of frame, low enough to miss the top crosspiece of frame and



which extends far enough on each side to put on a roller made from pine, 4 by 4 inches, which, when dressed and chamfered, made an eight-sided roller about 3½ inches in diameter. On each face of the roller I tack a backround, thus one roller will hold eight backgrounds, any width up to six feet, and any one of which may be put in front for use by simply rolling them all up and letting the end of the one wanted for use drop in front and then lower them all to the proper height.

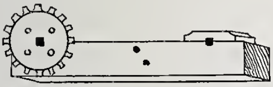


Fig. I.—End of Cross-Arm.

On the left-hand end of roller I have common ½ by 8 inch lag screws for a journal with only the wood crossarm for a box and a piece of wood screwed over it to hold it in place. On the right-hand end I take the same lag screw and have the head forged square, about same size as screw and have a small hole bored near the end to put a pin through to hold on the sprocket wheel. About 4 inches from this end I had a piece of ⅛ inch sheet iron 3½ inches square, with screw holes in each corner, brazed fast so that when the screw was set in roller, small screws could be put in each corner of the square piece so that the lag screw could not turn out itself, when raising or lowering the grounds (see cut and photo).

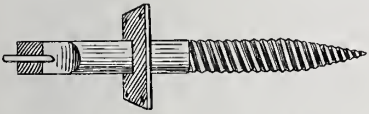


Fig. II —Right-hand piece for roller, ½ by 8-inch screw.

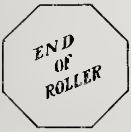
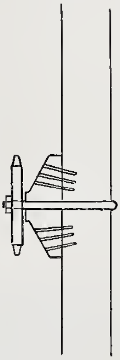


Fig. III.—The corners should be smoothed off.

For sprocket wheels I made a wooden pattern ½ inch thick by 3 inches in diameter, or rather 4 inches in diameter over all, cutting out twelve teeth ⅜ inch square at base and ½ inch high, making about 1-inch pitch. I had twelve cast at a foundry at a cost of about 10 cents each, with a ½-inch hole bored through center which I file square to fit on end of roller, making it fit pretty snug. I put on a washer between sprocket and crossarm. I got a ½ by 1 inch chain to run over sprocket to use in raising or lowering grounds. I bolt one sprocket fast to side of frame low enough so that one can handle grounds easily. The whole thing cost me less than $5.

Fig. IV.—Sprocket in the side of frame, ¼-inch bolt with thimble on it to fit ½-inch hole bored in sprocket wheel. Two nuts are put on the end of bolt so that the action of the sprocket wheel will not work them off.



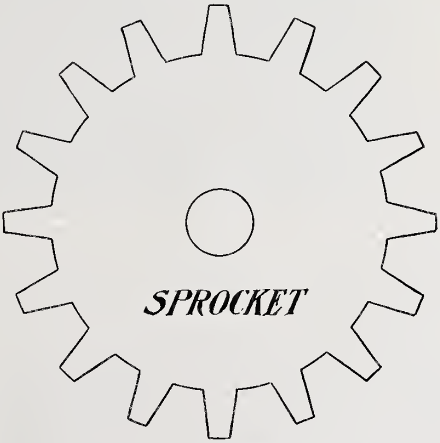


Fig. V.—Wheel is 4 inches in diameter.

The photo I send herewith will show more than I can express in words.

C. T. Bush.

MORE ABOUT THE POSTAL CAMERA CLUB.

Mr. F. D. Todd, Editor Photo-Beacon:

DEAR SIR,— As it was through the columns of your worthy magazine that the Postal Camera Club was first suggested and later brought to a reality, I thought it might interest some of your readers to hear from the club once more and to know that, at the age of three years, we are getting to be quite a healthy boy. It was thought by the originators of the club that by interesting good amateur photographers in different parts of our country a club could be formed for the study of picture-making, for the exchange of ideas and a general advancement in the art. This was to be brought about by an album containing a print by each member and mailed each month to the members, to be examined, criticized and remailed to the others on the list.

That the idea was an excellent one has been proven beyond a doubt by the steadily increasing interest of the members, by the general improvement in their work and the endeavor to help each other in many ways. Not the least of its benefits are the many friendships formed by correspondence, which have proved an educator in many matters other than photography. We now have members in various parts of the country, covering a range from Falmouth, Massachusetts, to San Francisco, California, and many of them are earnest, progressive workers. The album is entertaining, the criticisms are just and personally I am much pleased with the results to date. I think the verdict of every member would be "let the good work go on."

We are always glad to welcome earnest workers who wish to join our ranks. The membership is limited, but we have room for a few more, and any one interested can communicate with the Director for further information.

Address, W. H. MONROE,
254 Merriam Ave., Leominster, Mass.

CORRECT exposure is *the* photographic problem. The Photo-Beacon Exposure Tables solve it. Price 25 cents.

MY NOTE-BOOK.

One of the most interesting and profitable experiences I have had in the practice of photography has been the compiling of a note-book of processes and formulas, which, at the present time, I prize highly as an ever-ready help in my everyday work. Several years ago, desiring to amount to something more than an ordinary "snap-shot fiend," and being determined to study my business more than ever before, I purchased of the stationer a substantially bound, cloth-covered blank book of the memorandum style, about 4 by 10 inches and ½ inch thick. On the fly leaf I wrote, more in a spirit of jocularity than real seriousness, the following:

"Realizing the advantage of having at hand, in convenient form, the necessary information for use in emergencies and practical every-day work, it is my purpose to carefully write down in this book those formulas which appear to have merit for the purposes intended, which have come to my notice in the past and all of like character that I shall be able to glean in future work. Thus my experience with camera and processes, whether for pleasure or profit, will be rendered more accurate and reliable."

I was much surprised at first at the rapidity with which I accumulated material, and it is certain at that time I wrote down many things which have never profited me materially, or what might be considered by some to be old, worn-out and back number formulas belonging to other days. Developing formulas I found galore, having access, as I did, to a considerable amount of old literature relating to photography. But I reasoned thus: "Some day you may want to know these things. You may want to reach back to the old days and experiment a little." So down they went, one and all.

Now, I did not find the effort put forth to be laborious nor unpleasant, as some might surmise; but the most I have accomplished in the way of a note-book represents the passing hours of long winter evenings when nothing else of more importance could well engage my attention. I never regretted the time spent, for I realized all along that the constant adding to and growth of my book was producing within me an incentive to search out definite ideas of doing things, of digging down deep into the realities and possibilities of photography. It also taught me to search out what others had done and were doing around me, also to give due credit and respect to the opinions and work of others. There is apt to come a time in the life of every photographer when it is easy for him or her to establish themselves upon some certain methods of work and apparently never practice anything different nor enlarge in experience. This is the danger point. How easy to get into a rut. Here is where bigotry enters if it ever does, which is so much akin to the prevalent "swell-headedness" among amateurs. To those photographers of the type just described I know the force of my ideas regarding a note-book will not appeal, for I believe such could not successfully compile them, and if they did, little good note-books would ever do them. I have in my experience worked with one or two men to whom nothing could be profitably told. They read nothing, observed nothing and came very near to doing nothing.

But I am sure that to the person willing to profit by and respect the opinions of so many excellent photographers in our land, the effort of carefully jotting down, during spare moments, formulas, advice, etc., which may in some future unexpected moment prove valuable, will not seem irksome in the least. The task, if such it be, will tend rather to draw one to be a close observer and a student, willing to build up his skill by comparing his efforts with those of others. There is scarcely a journal, pamphlet or paper of any description, relative to photography, that enters my place but that I find in it material for my note-book, which I instantly seize upon and either record with pencil or cut out with scissors and paste into the book. I have many long

Ralph E. Beyer, Reading, Pa.

articles, carefully written, which I have transcribed from journals that I did not wish to mutilate with scissors. Along with these are printed sketches cut out and pasted, the book being a trifle wider than the average printed column. All of the notes and formulas, tables, sayings of prominent workers, etc., are all intermingled just as they have been found and placed in each successive page of my book from the beginning. And now that I have it nearly filled, after years of accumulating, my intention is to alphabetically arrange an index of all it contains, and append thereto, so the book may be more readily used. Here I will make a suggestion to those who may read this and adopt my plan. Get a much larger book than mine, or have it large enough so that it may be divided into various departments, that everything you add may appear in its proper place. Then index everything as you go along. If, in time, you fill more than one volume, buy another book similar to it, arrange it the same way and number the volumes successively from one up.

When you get your note-book well under way do not be afraid to use it. Make it a constant companion, and be assured it will become a dearer friend as the years come and go. Title it in some suitable way on outside cover. Mine bears simply the word "Photography." "Notes by the Way" would be as appropriate. On the inner cover pages of mine long ago I copied down the principal tables of weights and measures, also the Apothecaries' symbols. We use them — how often? I have also in the book the table of comparison of French and English measure and weight.

When you keep your note-book lying handily around your laboratory, and having callers, as you do sometimes, do not fail to notice their quizzical, bewildered expression as they examine it, for there you have an opportunity to study and they have, too. Five articles in my laboratory are generally found in close proximity to each other and within easy reach, namely, the Photo-Beacon exposure tables, my note-book, a bottle of library paste, a pair of scissors and a pencil.

A. J. Baumgardner.

HOW TO MEND A TRAY.

Every photographer some time or another has trouble with his rubber trays. They crack and break so easily sometimes from sudden changes in temperature, but oftener through accident, that an efficient and inexpensive method of repairing will likely be appreciated.

The writer has found nothing so practical for this purpose as paraffin wax.

For simple cracks, light a paraffin candle and allow the melted wax to drop in and fill up the aperture. When cold, smooth off with a knife. Such a repair will last a long time and is easily repeated.

When a piece is broken out of the side melt the wax in a suitable vessel and with a brush coat the tray inside and out, spreading about two inches on each side of break. If you have the piece that was broken out coat this also and put into place. Now, cut a thick paper in two pieces the length of the wax-coated portion and as wide as height of tray. Then hold the tray over a fire until the wax is soft and press one paper on the inside and another on the outside. When cool, wax the whole, applying three or four coats, letting each coat harden before spreading the next.

If it is not possible to set in the broken piece it will be necessary to fill in between the inside and outside papers with melted wax to the thickness of the original portion.

Glass jars may also be fixed by the intelligent use of paraffin.

Walter G. Teuton.

Try making a snow picture with the smallest possible number of items, say snowy ground, a few tree trunks or bushes, and intense sunlight. Most pictures are condemned for containing too much material. Very few for having too little.

THE ADVANCEMENT OF PHOTOGRAPHY.

(A talk at the Virginia and North Carolina convention.)

It is my purpose briefly and in this manner to submit a few practical and general suggestions on the subject of our art and its advancement. I have not the gift of extempore speech, and, wanting very much to add my mite to this most interesting occasion, I ask for your kind and charitable indulgence while I talk of some of the things which, while they may be matters of knowledge common to all of us, are yet seen from different view points of experience, and mine may not be wholly without use to you. However crude the expression of my ideas, I feel well assured that your broader and better experience will, to use some of our common terms for similes, furnish all the necessary background, light, shade and outline for the proper setting.

True it is that the ever-widening field of the world's knowledge is becoming more and more specialized; but so rapidly are the refinements of knowledge developed, that by nothing but constant and intelligent effort will any class of men, photographers among the rest, keep abreast of the times. With special reference to our own profession, I believe that even from a cold, practical business standpoint the conscientious artist, who surrenders himself body and soul to his art will, in the end, meet with the fullest measure of practical business success.

The constantly enlightening and refining influences of modern life work for him and with him, while the work of the merely sordid operator whose thought dwells more in the region of dollars and cents than in the uplifting of his calling, will rapidly pass from the patronage or notice of an exacting

W. H. Porterfield, Buffalo, N. Y.

public. The constant study of minute details, sometimes seemingly trifling, marks the effort and purpose of the true artist and thus brings him mastery of his craft, which must remain through life his source of deepest pride. He has something to sell to the world that the world wants to buy, and he adds something to the cause of that permanent beauty for which true art is forever striving.

For many years it has been my privilege and pleasure to attend conventions like this; and while the social side is always most pleasant I do not forget the serious objects before us; and I feel amply repaid if I am able to acquire one new idea in the work, or one fruitful suggestion. And I am sincerely glad to say that often these ideas and suggestions come from men who are comparatively unknown, and I return home strengthened and encouraged in the determination to do better and more faithful work, and to try and inspire my patrons with some of the enthusiasm with which I am possessed, and which I have gained from contact with men whose occupation makes for culture and the refining influences of life.

We can not, while in the harness, know what it means to rest from our labors. Friends may flatter us and we may fall into habits of mental sloth and self-complacency and develop that fatal disease of the mind called "egotism;" and just as surely as these things happen, the clock stops for us; and in a brief time we find ourselves stranded and out of touch with the living events which mark the extant moment of progress.

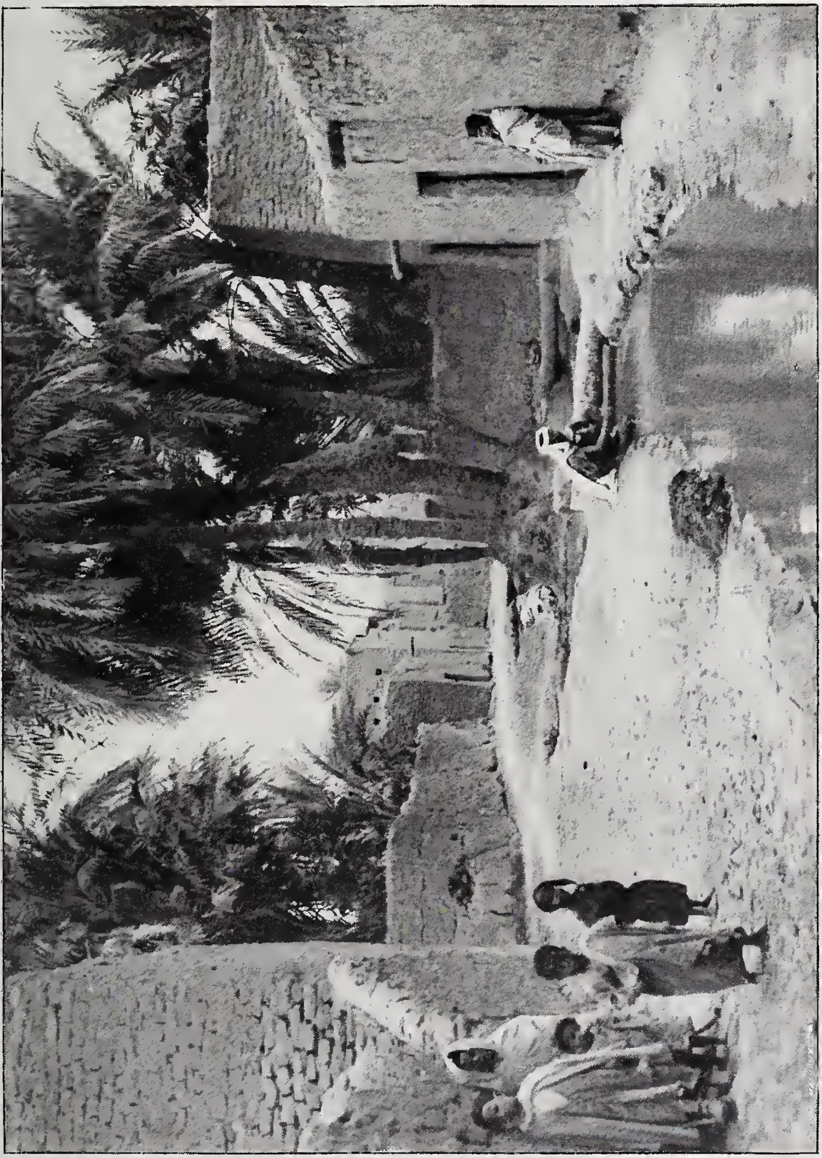
Say to yourself, "If I am a capable artist to-day I will be more capable to-morrow," but say it to yourself; be modest to the world and let your work be your best advertisement and promise. Your friends and patrons will do the rest.

Let me speak at this point on the subject of making the studio attractive. Tastefully arranged reception-parlors, draped in those subdued alluring shades which suggest something of art's elusive mystery, will be a wonderful help in stimulating public interest in you and in your work. In my own experience in this matter, I have been positively amazed at the contrasted effects of a ramshackle suite of rooms and a well-appointed studio, such as I have striven to furnish. People are nearly always in a luxurious, holiday humor at picture-making time, and they pay more readily, grumble less and seem to have more regard for the artist who caters to their existing temperament.

You can much more easily interest people in the finer grades of work when their senses are smoothed by surroundings which inspire their artistic impulses. In other words, let the studio convey in itself a silent but effective plea for its master.

The reception-room should always be in charge of a tactful person who has a thorough knowledge of all the details likely to be of interest, and he must exercise infinite patience. He must, of course, try to interest patrons in the best work, but at the same time he should manifest nothing but cordial sympathy when they happen to choose something else. Remember that when you visit your tailor or haberdasher you often pass by what they show you as the latest novelties in style for something which appeals to your own fancy or judgment. Persuade mildly and graciously, but let the patron fix his own choice according to his own standard of art. We should not isolate ourselves from things of common public interest. And just as surely as you stand for public betterment and civic righteousness, men will the more respect you and your calling.

It is a vain and foolish thing to say that an artist is only a Bohemian with no serious thought of life or the welfare of men. Dignify your occupation as it deserves. Strive for yourself and for the craft to gain that unquestioning public confidence which will trust you as it does the doctor, the banker or the lawyer. In other words, be the artistic law of your community. Why not? This does not of necessity imply egotism or vanity, but rather that simple manly self-confidence, and that faith in the



A. Huillier.

LE VIEUX BISKRA.

Courtesy of the *Bulletin du Photo-Club de Paris.*

things which your hand and brain can do, without which every occupation fails and is degraded. The true artist loves and venerates his art.

I have found that it is best to be extremely liberal in the number of sittings to be granted. Diversified poses always arranged with an appearance of cheerful interest in the subject, relieve the strain of self-consciousness in the sitter and help to restore his natural expression, thus enabling you to catch that most desired thing in photography, the true personality of the subject, taken naturally, unfrowning and unsmiling; giving a pleasing reposeful look of human intelligence instead of the condemned-to-be-hung wooden-Indian effect, which is at once the despair of the artist and the wrath of the victim and his friends. The rigid expression seldom leaves the subject's face when he knows beforehand just how many sittings he may expect to receive.

Let me speak of the darkroom. I have observed that the man who has separate boxes for exposed plates; one for white draperies, one for white backgrounds, one for snap exposures and one for time exposures, with a developer mixed to suit each effect, gives the printer infinitely less trouble and has very little doctoring to do on the negative.

It is a serious, and I must say common, error to try and make people look "pretty" by retouching and removing alleged blemishes. A negative properly made requires slight retouching, and I have known many a fine one ruined by too free use of the pencil. This does not mean that palpable defects should not be removed or improvements made in modeling, for here is the true test of the retoucher's art; when he can remove blemishes and retain the strong elements of personality, for sometimes they are well-nigh, if not completely, inseparable.

Just a word about the finishing-room. Have we not all seen fine pictures spoiled by lack of taste and judgment in that stage of work? I would not, for instance, mount every print I made for a cabinet size on a mat with a cabinet opening. Sometimes they can be greatly improved if you trim them to artistic lines and then mount them on mats which harmonize. You will not displease the subject by this exercise of taste, thus giving his portrait that much-desired touch of individuality. I would spare no pains in obtaining the best mounts and the very latest in design. By so doing you, in a great measure, escape the commonplace and stereotyped effects which have in the past so cheapened and injured photography. New designs in mounting are constantly appearing and many of them have, in addition to being new, that genuine artistic merit which helps the photographer and gives his work a suggestion of delicate superiority.

Somehow the human fancy craves change and novelty in all the fashions of life, and so we should avail ourselves of all the new accessories which are offered us.

My friends, if these desultory observations contain anything of value to you I shall love my art all the better, because it has impelled me to forego my habit of silence in public assemblies and thus speak to you. If you find them nothing worth, let me ask that you recognize that the spirit which prompted them was one of genuine fraternity and earnest desire to promote our calling — a calling which involves the representation of every phase of life from cradled babyhood to tottering helpless age — representations which become so inwrought with the memories and emotions of the human spirit that they become sacred things. Let us learn to typify these things by giving not cold outlines alone, but something of the hidden, inexplicable self of the man, woman or child in front of our lens.

And if we learn to dwell on these things and have them ever present with us, our quickened sensibilities will touch and, for a brief but all-sufficient instant, control the subject with that sense of human kinship wherein is hidden the true mastery of our art.

A. T. PROCTOR.

THE CONVICTIONS OF MARCUS STONE.

"I try to make my pictures appeal to the human heart. To paint a picture you must be lucid, you must be human, you must be modern. The story picture is an instantaneous flash on a drama that is never still. I don't get stories clean out of literature, but reading influences my brush. I get my story rather by a deliberate process. I take a big emotion — an emotion that is simple and universal — and I think and think and think till I can express it in form and color, much as a novelist might hit out his plot. I think that humanity was meant to laugh, and meant to cry; and I make no effort to get away from that humanity. I illustrate its little tiffs, its little sorrows, its little joys. I am not afraid of being pathetic. So long as I am human, I don't care. I will tell you one little fad of mine: I hold that a picture should tell its story in line. The attitudes of my dramatis personæ tell the story; the expressions of the several faces I hold in reserve. Take, for instance, my picture of 'The Peace Maker.' You may stick a postage stamp on the faces of those three people, and I think you will find the story is lucid enough without them. It is told in the attitudes — the lingering lover, angry, yet loth to go; the detaining friend, anxious to restrain the annoyance of Juliet; and Juliet herself longing in her heart of hearts to kiss and make it up, even while she pulls toward the house."

SUBMIT YOUR IDEAS FOR THE BENEFIT OF OTHERS.

It is not given to every camera man or woman to produce pictures of merit sufficient to gain even local repute, let alone general approbation. Those who can not be stars must content themselves as satellites and try to absorb as much reflected light as possible from the more luminous bodies.

But if we can not all attain the first rank it is not impossible for even the most humble worker, picking his way in the gloom of obscurity, to stumble upon some nugget of value quite overlooked by the more pretentious. Every earnest worker has presented to him opportunities of discovering something not generally known to the multitude, and by making that special knowledge known adding something to the general fund.

There is no man so humble but what he may know something of which his fellows may be ignorant, and which they would be the better for knowing. One of our great inventors made the remark that it had been his custom through life to encourage conversation with those whom he was accustomed to meet, believing that even the humblest might have some special knowledge that it would be for his interest to acquire. Some there are who are above this; they assume to know it all, and many are abashed into silence in the presence of so much knowledge. Yet how much such people miss did they but know; much that they might learn they never allow others to tell them. Here is where the value of such a magazine as this asserts itself, all, even the humblest are invited to share in the making of it, and the magazine is more interesting and valuable on account of it.

The editor that sits a being apart, preaching down to the multitude and ready at all times to pounce on those having the temerity to differ from him is happily uncommon these days, and some are so fearful of making their publication a one-man affair that they go into the market after other men's ideas rather than exalt and exploit their own.

James Thomson.

Three years of prosperity and advancement is the record of the Eastern Camera Club, 241 East One Hundred and Fourth street, New York, organized in the fall of 1901. Beginning as it has under the most trying circumstances and disadvantages, it has risen to that high standard as a photographic institution which places it among the foremost of its kind in the East; and bids fair, during the coming year, to show itself to still greater advantage.

EDITORIAL TABLE.

"The Flood of 1903" is the name of an artistic publication containing a large number of excellent views and a pithy account of the great Missouri-Mississippi flood of June last, covering all the territory in and around St. Louis, Kansas City and other places along the Alton Road. It includes pictures of the boats that were chartered and the methods that were employed to get around the breaks in its tracks, and illustrates the resourcefulness of an up-to-date transportation line in any emergency that may arise. It is, perhaps, the best collection of flood pictures ever published.

"Developing; Its Use and Abuse," by Henry G. Abbott, is the title of a new book on this old subject, published by Hazlitt & Walker, Chicago. Its principal feature is the reiteration of the exploded idea that it is possible to alter gradation by modifying the developer once development has started. The writer is apparently familiar with the new revelation, but rejects it.

From Harper & Bros., New York, we have received a copy of Rudolf Eickemeyer's latest photographic book entitled "Winter," Like all the rest of the series of this author's works, it consists of about fifty reproductions in half-tone from his negatives, done out beautifully on very heavy enameled book-paper, 10 by 14 inches in size, strongly and appropriately bound. The subject matter ought to be a pictorial revelation to the average amateur who lays his camera on the shelf with the advent of winter, his enthusiasm being somewhat chilled by the atmosphere. If he studies this book he will quickly come to the conclusion that if it be pictures he wants, now is the time to give it its most active service. But the beauty of this book is that it will appeal just as readily to those who do not use the camera, and young folks will find it just as interesting and suggestive as the rest of Mr. Eickemeyer's series. The price is $2.

The Ives Parallax Stereogram is undoubtedly the most distinct photographic novelty of recent years, and it is with much pleasure we acknowledge receipt of a specimen print from the inventor, F. E. Ives, 552 West Twenty-fifth street, New York. A year ago we had the pleasure of seeing one of the first in Mr. Ives's office, just after he had been awarded a medal for his invention by the Royal Photographic Society, and while in New York at the end of October he said that, much to his surprise, this contrivance which he had invented for fun to himself, bade fair to be the one thing that would carry his name down to posterity. Such is fame. However, the Parallax Stereogram, it may be explained, is a contrivance whereby stereoscopic relief can be secured with apparently a single print. As a matter of fact, there are two, superimposed, but each is worked out in an independent series of lines, and in viewing each eye selects the particular series that make an image for it, the result being two images as in the ordinary stereoscope, which are combined in the brain as one. This picture is the most popular one in our office.

The Bausch & Lomb Lens Souvenir of the firm's Quarter Century Competition comes to hand just as we are going to press, and in limited space we can draw attention to it. In it are reproduced sixty prize pictures in very beautiful style, and articles by a dozen successful workers add to the interest. At 25 cents, nominal price, it is a mighty big bargain, and should sell at sight to pictorial enthusiasts.

THE PHOTO-BEACON.
AN ILLUSTRATED PHOTOGRAPHIC JOURNAL
Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All remittances should be sent by postoffice money order, draft or registered letter to the order of The Photo-Beacon Company.

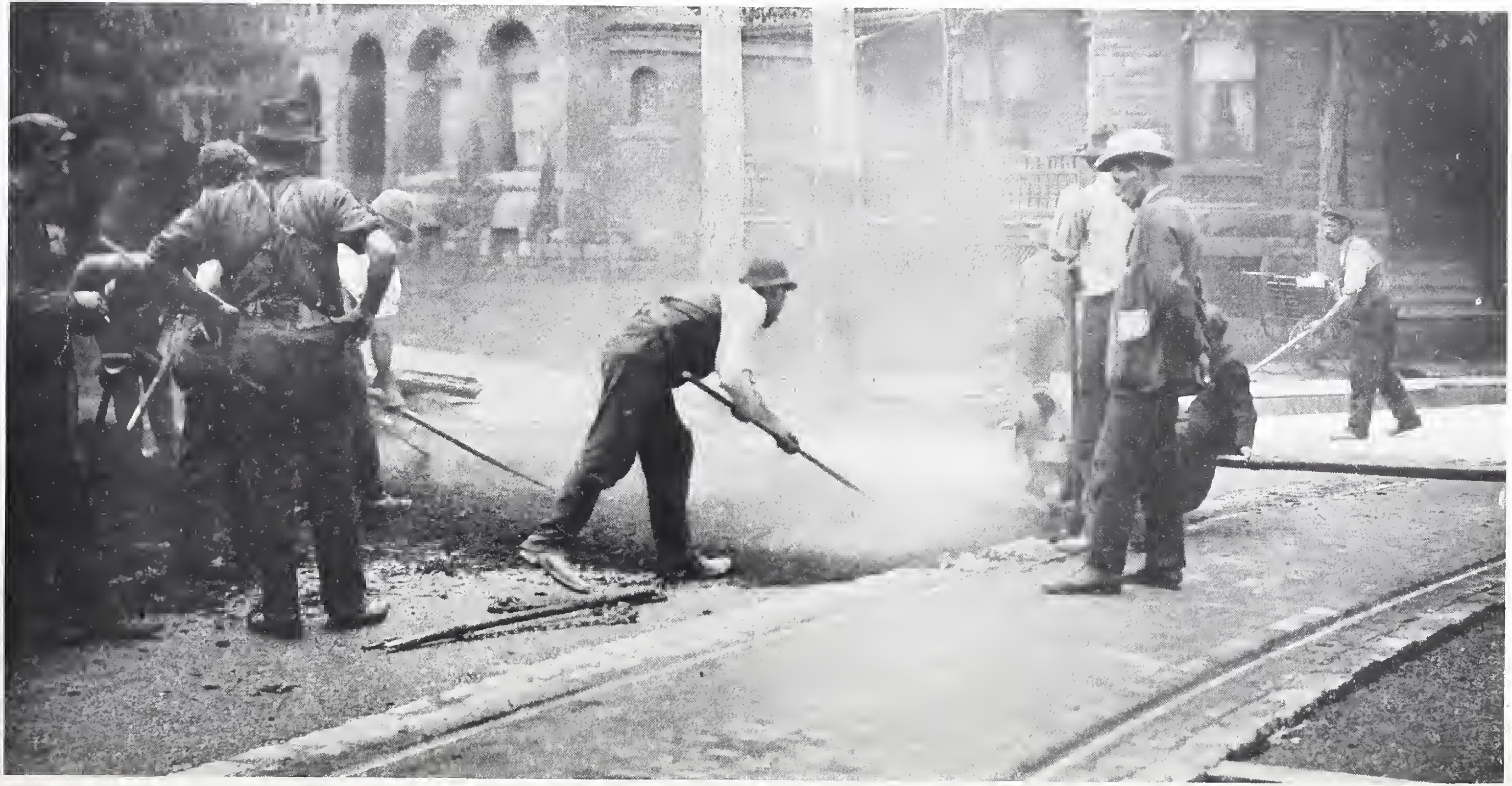
Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

To insure insertion in any particular number, copy for advertisements must be received not later than the 20th of the month preceding.

All communications relating to The Photo-Beacon should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621, Broadway, New York.



A. S. Goss. Toronto.

CHICAGO SALON.

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 805 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XVI. FEBRUARY, 1904. NO. 2.

FOURTH CHICAGO SALON.

THE PICTURES — FIRST NOTICE.

We all live and learn — willingly or unwillingly, those on the earth to-day are doing both. Well, I have learned something about pictures that I knew before, but this time it has been rubbed in. It is this, that much depends on the light in which they are viewed. The Salon jury did not have the best of lighting, partly from structural reasons and partly because of the dull, muggy weather. They therefore viewed every picture in two lights, one the dull natural, the other bright artificial, and by these the selection was made. My former opinion was based on these lightings, and it was therefore a great surprise to me when I came to examine the prints on the walls in good daylight thrown upon them from the top. A careful inspection forced me to recall my former judgment. For instance, one exhibitor's work had been condemned because of its lack of depth and tone value, though it had been much admired for the composition and general effect. A few of his pictures were admitted, almost with a mental reservation, and my readers can picture my amazement when I found these to be full of the very quality we considered them deficient in. I am afraid that we rejected many good pictures that should have been hung. I am glad to say there are but few on the walls that I wish had been refused.

Viewing the exhibit as a whole, the most noticeable feature to me was the decided advance in composition and in the rendering of tone value. Personally, I am convinced however that many good workers handicap themselves by choosing subjects that are low in tone, simply because there the scale is comparatively short and therefore easier to render. Photographic art is too much in the puritanical stays of development, that is, the " life is real " idea, for my conception of things. This notion has been worked to death, besides any student of history knows it is almost nonsense, for nations and races are like individuals — they are born, develop, grow old and die, whether the people strive on this poetic plane or not. What I want to see is as much as possible of the joy of living. We all have our troubles — I think I have had more than my share — but let us forget them and enjoy the sunshine, the bright things and the happy things around us. Americans are fond of fun. I can not understand why they want so much of what is sad in their photographs.

I need scarcely say that it gave me much pleasure to see so many PHOTO-BEACON prize-winners attaining Salon honors, and more to see many there that had secured but special mention in our competitions, showing that it is no mean honor to be a prize-winner in our monthly contests.

The short space at my disposal forbids anything but a brief note of each worker's exhibit.

Juan C. Abel is represented by " Sunlight in the Woods," the best effort of his I have seen, but I would prefer the sunshine to be more pronounced. I have lived much among trees and love the atmosphere there.

George Alexander devotes much of his winter time, when business is slack, to photographing such flowers as he can buy in Chicago. I know how painfully he has climbed the pictorial ladder and want to congratulate him on his success with the flower studies, which are noted principally for their good rendering of color values.

Charles O. Axell follows the low-tone school successfully. His portraits are good in posing and tone, but his Scotch mountaineer is not Scotch.

F. C. Baker has made big advance since he began to take part in our competitions. His forte is tone, and he can take the most prosaic subject and make it beautiful, as witness "The Barn."

Charles E. Barr is original, for which I am thankful. He has three pictures worked out in masses like a wash-drawing, showing most unusual breadth. His work is worth studying.

Curtis Bell has a landscape that is rather unusual in composition, but effective.

Jeanne E. Bennett has a varied lot of subjects, but in one and all she exhibits the same fine conception of tone. "In the Garden" is a simple subject and good.

Sig E. Berg has two portraits and the same number of landscape subjects. The latter specially interested me because they showed emphatically that it is possible to combine fine tone quality with good photography — if one knows how.

Ralph E. Berger, in "The House on the Hill," gives a lesson that a good picture can be made with mighty simple material.

Alice Boughton revels in tone, and in "Tanagra" makes it so delicate that it is almost lost.

H. G. Brinsley, in "Sunshine and Shadow," has real sunshine — the kind that makes you want to get out of doors.

F. A. Blackburn has an orthodox photograph in a "Rocky Mountain at Banff" that has good values.

D. H. Brookins is a man in whom I am interested, because I have watched his career for years. This is the first time he has gained honors, which he deserves, for he has good aërial effects.

Miss F. E. D. Brown's boat painters is known to our readers, as it was a prize-winner a few months ago.

Ralph E. Brown has a portrait study that is good.

P. S. Brugmire, in "Trees and Clouds," has the most unique effect in the Salon, which is so bold that it looks as if it were overdone.

C. S. Bourgeois has two landscape subjects that are splendid photography, good in composition.

F. M. Cable has the only dog picture in the exhibition, but it is a good study of a collie's head.

J. G. Canini shows fine rendering of distance in "The Heart of the Alleghenies."

A. D. Chaffee's "Winter" is almost a duplicate of a very successful print he showed in the first Salon. It shows sunshine.

John Chislett is well known to our readers and most of his exhibit has appeared in our pages.

Edgar A. Cohen makes "Morning Mists on Putah Creek," if anything, a little too clear and sharp.

James Dana, in "Annie," has a thoughtful portrait of a sweet child.

Doctor Detlefsen is well known for his keen appreciation of tone, and so nothing more need be said about that here. His subjects are simply children playing round an ordinary city yard and taken in the few spare moments a busy doctor has, and to me their interesting feature consists in the suggestion that one can find good material for pictures right at home.

John Dolman has an excellent study in decorative arrangement in "The Landing."

Sarah J. Eddy has a very good child picture in "The Banana."

Gustave Eisen has a matter-of-fact photograph in "At the Convent Gate," but "Sierra Madre" is a good mountain scene in gray, though the clouds look a little too pronounced.

William S. Ellis's "Cynthia" has a

simple arrangement, with fair lighting, but of good tone.

Louis Fleckenstein's work is well known to our readers by his army of prize-winner. He is coming swiftly to the front and here he has taken jumps that are unexpected. His least satisfactory picture to me is "Christmas Carols," while "The Milkmaid," by its go and vim, its bold massing and handling, makes me consider it to be the best thing he has done yet.

J. H. Field. This worker follows the rolling year step by step, and all his exhibit is practically the month of October, the month when mists lie low in the morning. Many of them have appeared in our pages, and so nothing more need be said beyond this, that during the judging both Mr. Field and myself kept very quiet when his pictures were on the easel, so that there would be no possible chance of influencing the opinion of the others.

Solon L. Gates is represented by seven portraits, all of which are characterized by a fine conception of the character of the individual sitter.

J. H. Forsyth, Jr., still depends on snow scenes, in which he shows remarkable success with reflections in water.

J. C. Gabel shows in "Idle Dories" that one can make a good picture with a hand-camera snap-shot.

R. R. Gilkey has "A Spring Day in the Woods," which is very wet. It is simple in composition and good in tone.

T. M. Glenn, in "Birches," has a fine bit of straight photography, while in "A Chicago Girl" he shows good decorative arrangement.

Juan C. Abel. New York.

CHICAGO SALON.

A. S. Goss has a fine snap-shot in the "Proletariate," a street scene. "The Calf Path" was in our issue of last month, but the print in the Salon was much finer.

Frank Green shows a pictorial rendering of a typical Chicago scene.

William Gunthorp shows good composition and tone in "On the Chicago River," while "Pauline" is a reposeful piece of portraiture.

Henry Hall. "Idling" is a capital study of a child and kitten that has fine tone quality.

George H. Hazlitt has an effective and decorative subject in "Gloucester Harbor."

E. W. Humphrey's "From the Land of the Lotus" is a simple bit of composition, rather low in tone.

H. M. Jackson shows a good tone rendering of sand dunes in "Ripon Creek."

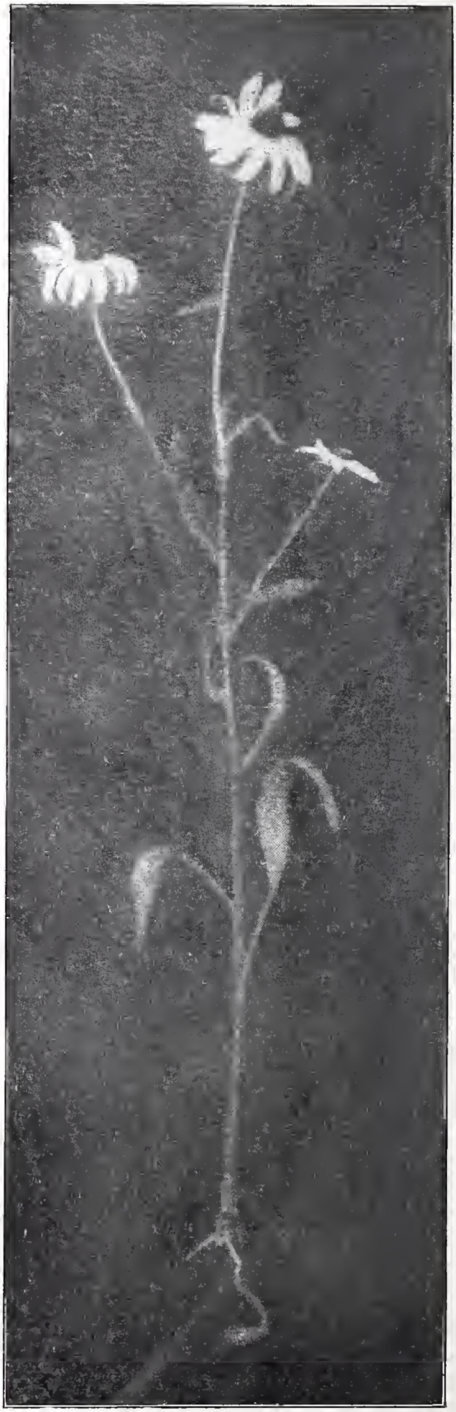
L. M. Kaiser, in two of his pictures, has good composition, but "The Guardian Oak" is almost too much attenuated bi-gum.

G. Edwin Keller. "The Golden Hour" is a very effective sunset picture due to the warm tone of a pigment on a yellow base in a carbon print. It is similar to the work of Mr. Porterfield, described elsewhere.

PICTORIAL COMPETITION No. 68.

This competition has given me a great amount of pleasure, because the prints submitted showed a great advance in the knowledge of pictorial principles among the competitors. For years I have harped on one proposition, that the beauty of nature consisted very largely in profusion, but the beauty of a picture depended upon arrangement, and here is the principal reason why so many transcripts of beautiful scenes make poor pictures. About half of the competitors photographed a bunch of flowers, the other half only a few, the first prize-winner only one. Will the others bear this fact in mind, and in future try to see how little they can get along with, not how much they can include. But let them put all their brains into arrangement, into getting a harmonious background and a lighting that will bring out the full gradation in blooms, leaves and stem.

The judges had their own troubles with about one dozen prints, but one by one the number was reduced until five remained. They had no great difficulty over the first and second prizes, but they felt compelled to rate three as of equal merit when the third was reached. The awards are as follows:



W. H. Porterfield. Buffalo, N. Y.

FIRST PRIZE

First prize — W. H. Porterfield, 100 Lakeview avenue, Buffalo, New York.

Second prize — James E. Taggart, Delaware, Ohio.

Third prize — Edmund H. Royce, 22 Bank street, St. Albans, Vermont.

Third prize — La Verne Ruddock, Wheaton, Illinois.

Third prize — James Thomson, 2 Mascoma street, Roxbury, Massachusetts.

Special mention — Mrs. J. C. Sheridan, W. G. Phister, Belle Johnson, Charles Vandervelde, John Moser, J. M. Neuman, D. P. Heap.

PARTICULARS OF WINNING PICTURES.

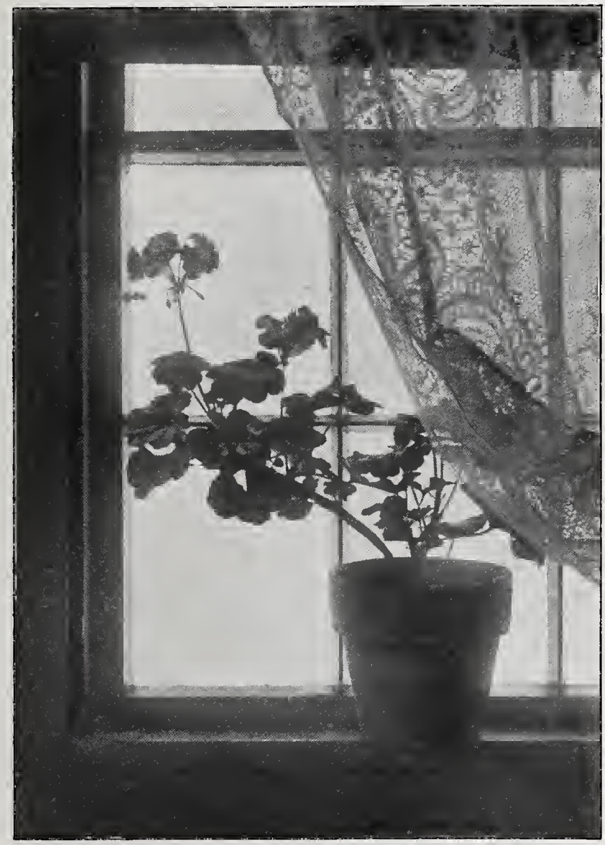
First prize — Made in July, about 4 P.M., exposure one second out of doors on Cramer Inst. Iso. plate with ray filter, stop F. 16. Printed on carbon.

Second prize — No particulars given.

Third prize — Mr. Thomson, made on Stanley plate and printed on plain silver paper; others give no particulars.

CRITICISM OF WINNING PICTURES.

I am doubtful whether or not the engraver can do justice to Mr. Porterfield's print, which is a very unusual one, the effect being like an oil painting in which yellow and dark green seem to predominate. The support of the carbon tissue is evidently canvas, which has been coated with a yellow pigment to suggest as nearly as possible the "Black-eyed Susans" that are his subject. A black or dark-green tissue has been used for the printing medium, and the effect is quite good, not to say startling. A sunset scene on similar



James E. Taggart. Delaware, Ohio.

SECOND PRIZE.

lines at the Chicago Salon this year has caused quite a furore. Carbon and bichromate workers might take up his lead with advantage. Pictorially, any one can see the simplicity of the arrangement here, how the spaces are varied and how the main line of the stem has just sufficient curve to it to lend variety.

The second-prize picture is primarily a bit of fine, clean photography, everything sharp and well-defined. The beauty lies in the spacing and in the choice of a plant with decorative possibilities. That reminds me that but a few days ago I felt small. One of my friends is a magnificent grower of flowers, but makes no pretensions to artistic taste. I am supposed to have some of the latter, but am only learning about flowers, and am mightily pleased when I get them to grow, especially in the house. A few days ago he showed me a geranium plant that was a beauty, trimmed so tastefully that it was a beautiful bit of decoration, and I ruefully thought of mine that were only bushes. I was so intent on their growth that I had given no thought to their appearance. Mr. Taggart evidently can both grow plants and trim them right.

The third-prize picture I am compelled to leave over, as the the Salon matter will take up so much space.

F. DUNDAS TODD.

FUTURE COMPETITIONS.

Competition No. 70 — Lantern slides, any subject. Closes February 28.

Competition No. 71 — Snow pictures. Closes March 31.

Competition No. 72 — Waterscapes. Closes April 30.

Competition No. 73 — Branch of a tree without leaves, with special consideration of decorative effect. Closes May 31.

Competition No. 74 — Domestic animals. Closes June 30.

Competition No. 75—Genre pictures, or pictures that tell a story. Closes July 31.

Competition No. 76 — Branch of a tree with leaves, with special consideration of decorative effect. Closes August 31.

Competition No. 77 —"At Home" portraiture, that is, portraits not made in a studio. Closes September 30.

Competition No. 78 — Snap-shot pictures. Closes October 31.

Competition No. 79 — Landscapes. Closes November 30.

Competition No. 80 — Flower pictures. Closes December 31.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else.* The outside of the package, in addition to our address, may bear that of sender. Accompanying a letter or postcard should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.
2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.
3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.

Second—Books to the value of $2.50.

Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

KACHIN FOR LANTERN SLIDES.

As an alternative from hydrochinone, kachin forms an excellent developer for lantern slides. The following formula may be recommended:

A.

Kachin	40 grains
Sodium sulphite	273 grains
Water up to..............	5 ounces

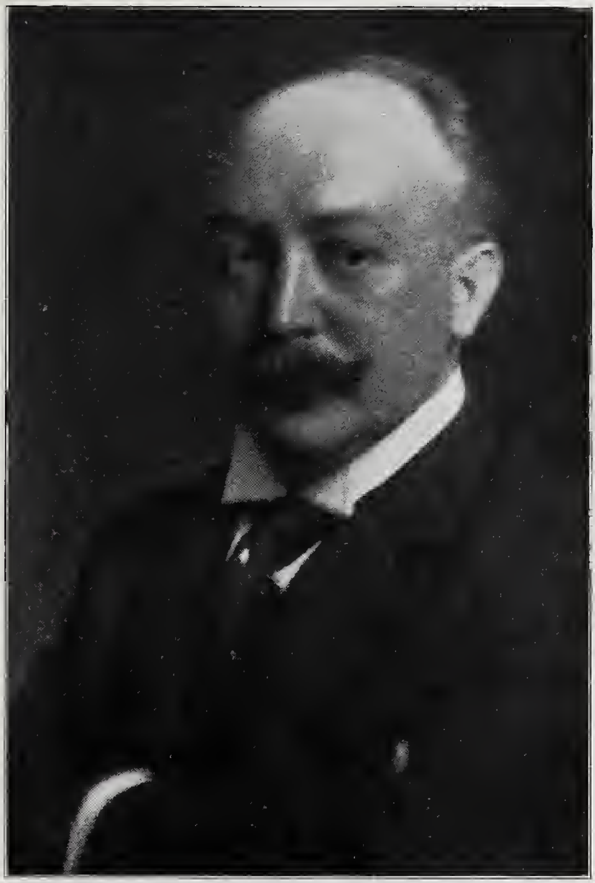
B.

Sodium carb. (crys.)	109 grains
Water up to..............	5 ounces

Take equal parts of A and B, and dilute with half volume of water. This developer works well with the slower brands of lantern plates and gives warm black tones. It is very clean and stainless.

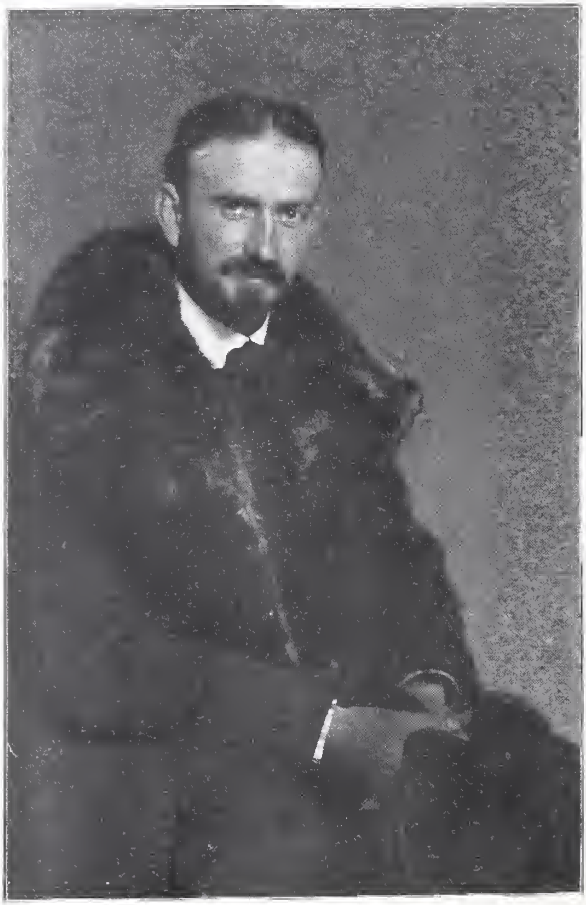
PROFESSIONAL PORTRAIT COMPETITION—No. 1.

I thought I had made it clear that only portraits made in the ordinary course of business were eligible for this competition, yet I have had many inquiries regarding the intention aimed at. The purpose in my mind is really twofold. First, I want to show, month by month, what kind of pictures really do sell to customers, this being in reply to hundreds of photographers who tell me that portraits that possess artistic merit are not salable. This is undoubtedly more or less true, probably much more than less, and the average photographer is in business for the money that is in it, not for glory. On the other hand, the man who works for money only is in an unfortunate condition, whereas the one who has a pleasure in his business is lucky, indeed. The photographer who can make his living in photography as a business, and yet find opportunity to manifest his artistic aspirations is one to be envied, whereas if he could make artistic portraits and dare not, he is to be pitied.



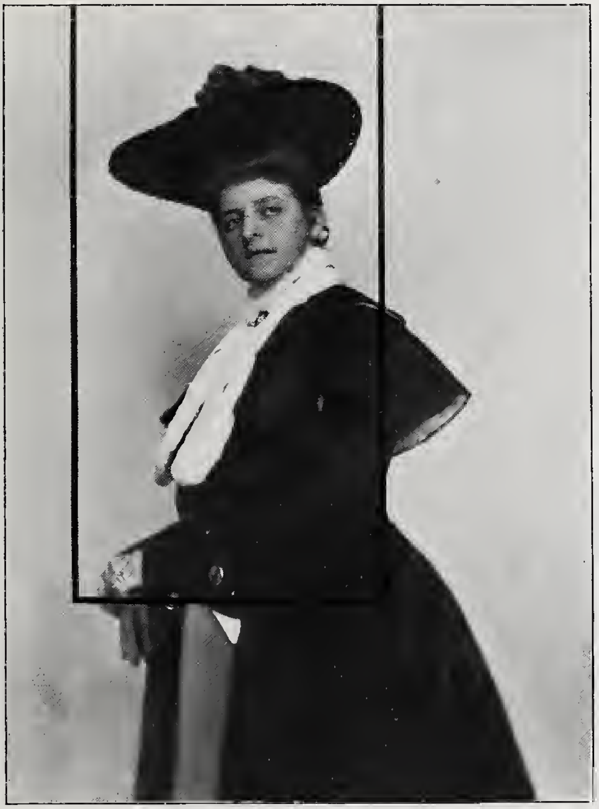
FIRST PRIZE.

Sometimes I think many of the profession underrate the taste of their customers, and are afraid to do their best, with the natural consequence of degeneracy. They forget that the whole trend of the times is in their favor, that the drawings in the daily papers, the illustrations in the popular magazines, the practice of amateur photography — these and other mediums are educating the taste of the people. A few days ago I had a letter from a photographer in a town of not over three thousand population in a Western State, where there are two photographers, in which he mentions that his gross receipts for three years amount to over $12,000 — to my mind a most unique showing, one that would be hard to duplicate in many a large city. He is undoubtedly a good business man, but he is well known in his own State as making good pictorial work, and I think we are justified in believing that much of his success lies in this fact. Such of my professional readers as are less successful than he, in my opinion, have a big think coming. Six years ago his work was ordinary: now it is out of the ordinary and his profits are likewise. He has, I know, worked for all he has got; he has made money and had pleasure in his business, and I know of no other means at the present time whereby similar results can be obtained differently. My aim in these competitions is to tempt men to do their best and point out, if possible, the reasons of the success.



SECOND PRIZE.

Fourteen portraits in all were submitted in this first competition. The average quality was very low, and outside of the prize-winner I have no hesitation in classifying them all in the "Also Ran" class. Frankly, I am surprised that the public puts up good money for such bad work, and these eleven nameless ones — for I need not list them — after they get over their first fit of indignation at my opinion, should get right down to bedrock and work from the ground up. One and all are absolutely ignorant of the first principles of composition, and I would recommend them to send me 10 cents for a copy of "The Elementary Principles of Composition," and once they have digested that I will prescribe another course of sprouts.



THIRD PRIZE.

As to the prize pictures: The first award falls to a photographer in one of our large cities, who in portrait work caters principally to artists and their friends. This portrait was made on order and delivered to the customer, and a good big price paid for it. It fills my first condition, and on pictorial principles it is first in my judgment. The printing medium is a platinum print slightly toned with uranium and double mounted, the color arrangements being quite harmonious. The composition is simple, being a matter of four spaces of different size and shape. Each space is full of good gradation, and each blends pleasantly into the other, the only objectionable feature to me being the want of a little relief on the shadow side of the face. The principal point I want to make is this: that the photographer had a distinct conception of the personality of his sitter and worked for it. He recognized in him a man with decided thinking faculty, and so the strongest light is concentrated on the temple, so as to show the fulness of the brain. But this man is not all intellectual; the animal is fully developed, so that he may fairly be described as a man of well-balanced character. His full face below the eyes indicates the perfection of the human machine, and this summing up of his character the photographer secures by the position of the eyes, which are brought past the lens, so that a contemplative effect is produced. The folded arms tell the same story. So it is all summed up in this: that here we have a photographer who is a reader of character and endeavors to make his lens write what he reads.

The second-prize picture emphasizes a point just made regarding expression in a portrait. I want every photographer to feel that he is responsible for the expression on the sitter's face, that whether it be grave or gay, stupid or intelligent, contemplative or alert, he is the one that made it so. This may look as if I were asking too much, but years ago I worked out a whole series of poses to illustrate this point, all of which I reproduced in "Amateur Portraiture at Home," and I think I demonstrated there beyond dispute that expression is controlled by the photographer. In this picture we have an alert expression. Why? Because of the relative positions of body, face and eyes. At one or two conventions I have illustrated this point by getting on a chair and in a few minutes showing a score of different expressions in a very mechanical way. The most intelligent expression is got when the eye looks straight into the lens, but the face and body turned away. Here is the idea. A man is sitting sideways to some one who speaks to the sitter. The latter becomes alert to the voice and turns his eyes to the speaker, but his every movement is controlled by a natural law, the law of least effort, and this law prevents his head turning any further than is necessary for the eyes to look at the speaker, and the same principle governs the action of the body. One can see from this line of reasoning that a "posed" figure is apt to be an unnatural-looking one, and that the photographer's part is not to pose, but make the conditions such that the natural attitude will be not only decorative in arrangement, but one that will give the sitter the expression that is desired. The photographer here apparently understood what he wanted, and secured a capital portrait of an intelligent man who looks so. There is not the delicate subtlety of half-tone that is found in the first-prize picture, but the spacing is good, the blending of masses is harmonious. The one weak spot to my mind is found in the hands, which have been subdued just a little too much. This portrait is by a photographer in a town of less than two thousand population.

The third-prize picture is of the kind I meet on every hand. It contains much technical excellence, but evidences no thought. It shows many good lines, but all are marred by being so decidedly silhouetted against the light background. The result is there is no harmony. The face lacks character, simply because there is no reasonable cause for the lady looking where she is. She is evidently standing, and most people in that attitude either look straight out or downward. There is no evident cause for the upward and oblique look. Again, only twice in my life can I recollect having seen a good portrait where the head was leaning away from the lens; the result is as here — a rather subdued expression. The print is reproduced just as received, and I am to presume that the customer's order was filled with similar prints. In the original I consider the spacing to be rather commonplace, being too symmetrical, so I have drawn dark lines round the part of the figure that I think makes the most pleasing combination. Photographers handicap themselves very much artistically by delivering their wares cut to a standard size, for as a matter of fact with every print there is one shape above all others that is most pleasing, and therefore the photographer should, when possible, get the customer to accept it. In this particular case one can see the three bounding spaces and the four body spaces consisting of hat, face, collar and bust, all varying in form and size.

F. Dundas Todd.

RULES.

1. Only one print to be submitted in any one month, and this must be from a negative made in the ordinary course of business within sixty days of the date it was mailed.

2. The pictures will be judged on

the first day of each month, and all prints received prior to that date will be included.

3. Requests for private criticism, accompanied by fee of $1, may be sent along with the print and will be answered after the judging is over.

4. Mark outside of package with the words "Portrait Competition."

5. Prints are not returnable.

METOL FOR THE PROFESSIONAL PHOTOGRAPHER.

While during the past twenty years chemical ingenuity has devised, manufactured and sent broadcast into the photographic market scores of new developing agents, most of them have received but a cool reception at the hands of the professional photographer. The

Louis Fleckenstein. Faribault, Minn.

CHICAGO SALON.

amateur, always on the lookout for something new, has proved less indifferent. He took up the task of testing the practical value of the new reducers, as he had both time and money to spend liberally on his favorite hobby. Thanks to his experimental spirit and to his enterprise, we are able to form a fairly good opinion of the value of these few developers that have stood the test of time and have now received universal recognition for their indisputable advantages. The results which the amateur achieved in practical work have been confirmed by the scientist.

Working on parallel lines, but with a better conception and deeper knowledge of the chemical reactions that attend the birth of the silver image and with better instruments and methods at his disposal for testing and studying these processes, the latter came to similar conclusions, though by a different way.

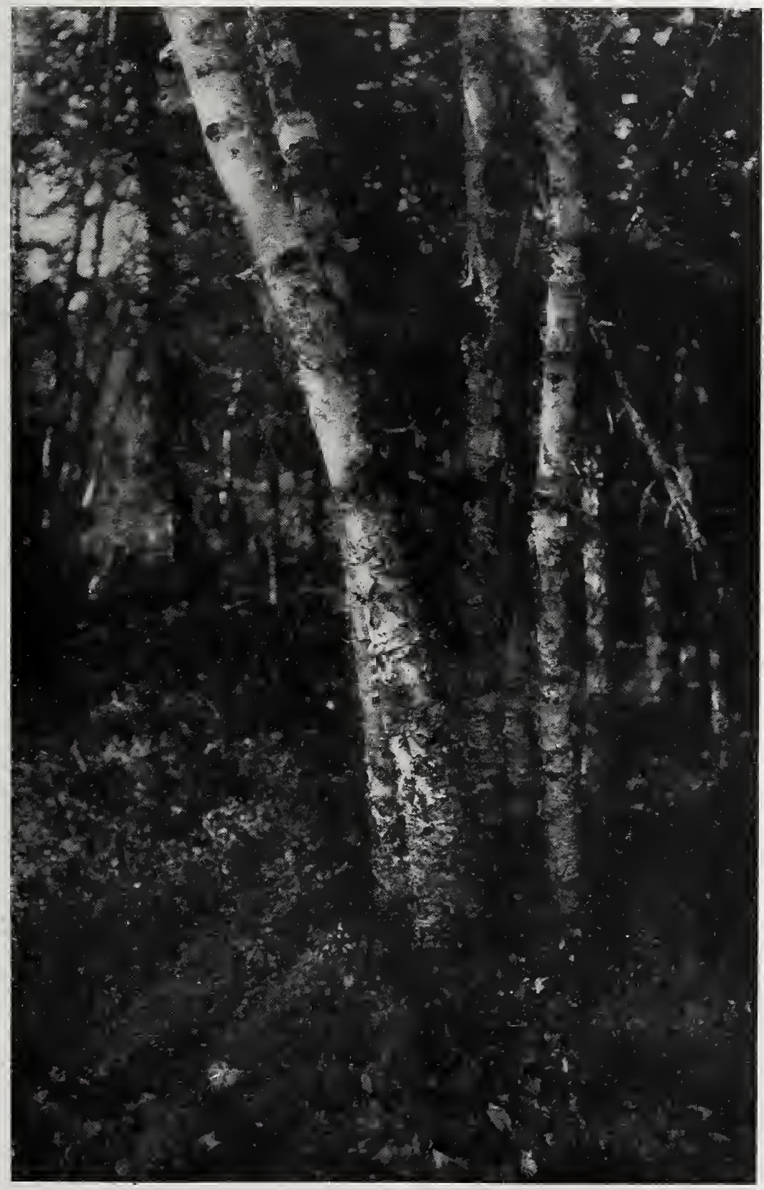
The professional photographer, on the contrary, has been very reluctant to avail himself of the newer methods at his disposal, and has been contented to follow from afar the lead of the amateur and the scientist. Especially is this noticeable in the United States, where he still clings to pyrogallic acid as to his only salvation and with a more sentimental than enlightened devotion. Pyro is still an excellent developer, as it was thirty years ago, but is it reasonable to assume that while during that time the world has achieved great progress in nearly every field of human activity, it should have stood still and marked time in that particular branch of photography? Happily, this is not so.

Many of the newer developers afford advantages over pyro. Metol, which has been selected as the typical developer of that remarkable series of coal-tar products introduced in latter years, and as the one which has deservedly acquired the ardent recognition among advanced workers, should receive an extended trial from the professional photographer, for whose work it is particularly suited. The question immediately arises: what are the advantages of metol over pyro? Well, that depends upon the point of view. Metol will not put in a negative what is not in it, nor transform a homely face into an idealized beauty. Metol will do little more than pyro. But, and there is the point, that little is very important to the professional. It means simplification in development and better results under unfavorable circumstances. Metol will give better results with a marked economy in trouble, time, developer and " langwidge " when difficult, contrasty or bad subjects have been taken. It will give better gradation and more of it in white draperies, bridges, etc., and generally under all circumstances it will allow of a somewhat shorter exposure. It is less sensitive to change of temperature. It reduces the time of labor in developing and in printing. And to obtain these advantages one does not forego any of the advantages of pyro development. How this comes about is scientifically proven by carefully conducted sensitometric experiments. In practice it is easily ascertained by comparative exposures on a difficult subject, all conditions of time, plate and lighting being equal and development being done with pyro in the usual manner and with metol.

As a practical test, for instance, the following, which was made in a studio of one of the leading New York photographers, shows what ought to be done under difficult circumstances.

On a small table was thrown a yellow-red velvet rug; on this draped four thicknesses of veil gauze, so arranged that part of it would stand four thicknesses in the air. Behind was a white background; near the table a black fur. Then the studio light was thrown wide open, giving an intense flat light. Two plates were taken and the same time given to both. One was developed with the ordinary pyro developer, the other with metol. The development of the first plate lasted eighteen minutes, the development with metol two minutes twelve seconds. Prints from both could be distinguished by the fact that the prints from the pyro negative did not have as much detail in the black fur and was slightly choked up in the high light, in spite of the slow and diluted development.

Far more correct and still more convincing are scientific experiments as recorded by Eder, Valenta, Von Hübl, Luffro, Cramer and many others, including the writer. The salient features of those shows that with nearly every brand of plates and all other conditions being equal, metol will give at least one or two sensitometer degrees more than pyro, and that it is a faster and more powerful developer and is less influenced by changes of temperature. It is very controllable within the ordi-



T. M. Glenn. CHICAGO SALON. Chicago.

nary limits of overexposure in studio-work, bromid and physical restrainers acting powerfully on it when used in sufficient quantities.

To use metol properly, however, certain rules have to be adhered to, which it is well to repeat here, the first one being not to dilute unnecessarily the developer. As metol works in surface proportionately faster than in depths, it is never necessary to dilute the developer more than its own volume, as beyond that it will neither produce more detail nor more softness and would merely retard the obtaining of density. It is because of the too great dilution of their developer that certain photographers have been led to believe that metol was reluctant to yield enough density, while in fact it gives readily all the density wanted. It is desirable, when using metol, to add bromid of potassium by very much larger doses than with pyro, the rationale being that with metol bromid acts far more as a clearing agent than as a retarder. Thus in a developer compounded after the formula which follows below, no less than 30 minims of a ten per cent solution of bromid of potassium should be added on an average to each ounce of mixed developer.

Contrary to a prevalent opinion, the elasticity of metol is very great when the exposure is kept anything within reasonable limits (up to ten times, over). We have often developed side by side correctly timed plates in a strong metol developer without any bromid, and in one containing 40 minims of bromid to the ounce, obtaining in both cases negatives with excellent printing quality and with hardly any difference in the resulting prints. Precisely on account of the slight retarding action of bromid several plates may be developed in succession with the same amount of developer without any perceptible change in the character of the negatives, no less than six to eight 5 by 8 plates being developed in, say, four to six ounces of developer. Two-tray development can be resorted to with metol to great advantage, one containing a well-restrained solution, the other a developer tending to softness. Although the formulæ that come with each bottle of metol are excellent, we would advise those who will give this agent a trial to use the following formula, which has the advantage of being easily controllable and has the endorsement of some of the best foreign and home studios, this being made up in two solutions, thus:

A.

Metol	1 ounce
Anhydrous sodium sulphite	5 ounces
Water	90 ounces

B.

Potassium carbonate, C. P.	10 ounces
Water, up to	90 ounces

Three parts of A and one part of B.

The normal developer for well-exposed studio work is obtained by adding to the foregoing 30 to 40 minims of a ten per cent solution of bromid potassium for each ounce of mixed developer.

For very contrasty subjects, white draperies, very short exposures and wherever the very softest effects are desired, a developer composed as follows will answer admirably:

Three parts of A, ½ part of B and 2 to 3 parts of water. When necessary, 5 to 10 drops of a ten per cent solution of potassium bromid shall be added, to keep the white clear.

A somewhat simpler formula is obtained by replacing the carbonate of potash by sodium carbonate, thus:

Solution A, as above.
Solution B:

Soda carbonate crystals	10 ounces
Water	90 ounces

Normal developer, equal parts of A and B.

For all-round studio-work and well-exposed plates, add to this 10 to 15 minims of a ten per cent solution of potassium bromid per ounce of mixed developer. For softer effects, add water, but never more than twice the original volume of the mixed developer.

The preceding formulæ, suitably modified, give admirable results on all brands of bromid papers, on gaslight papers and lantern slides and transparencies as well. It will be perceived, therefore, how much simplified all darkroom paraphernalia becomes, and when the thoughtful worker considers that with two developing bottles and two trays he is able to cover the whole range of photographic developing processes and to get the finest results at that, such a method ought to impress him at once with its advantages and commend itself for an earnest trial. It is well worth the latter, even at the cost of spoiling a dozen plates in the experiment. A. K. Boursault.

THE PITFALLS BY THE WAY.

This is a photographic sermon, in which some of the deadly traps into which photographers may fall are pointed out, so that, being forewarned, they may be forearmed. The thorny road to excellence is beset on many sides with gaping holes into which one can put a foot and come a nasty cropper. One can slide into the pit of technical error or tumble down the chasm of composition. There are out-of-the-way paths which are comparatively easy to get into, but with these I can not deal. It is the common, every-day holes that I have set myself to describe, and I trust that I may help some pilgrim to avoid them and reach a happy destination in the end.

Being a sermon, I shall divide my article into heads — firstly, secondly, and so on. Among the "firstlies" should come technical errors, but these I do not propose to deal with, because there are so many, and there are other people much more capable than myself to give advice. I will, therefore, skip on to "secondly," which is choice of subject. This covers a very wide field, and the best way to get out of it is by a series of "don'ts." Do not ever attempt to take waterfalls in woods or down chasms. Recollect that if you do you will make a muddle of it, because if you expose for the water you will lose detail in the dark foliage, and if you expose for the dark foliage the water will come out like nothing so much as a mare's tail. Do not take a view with the sun directly behind you. In the prehistoric times, writers of photographic notebooks were fond of explaining that the sun must be well behind the oper-

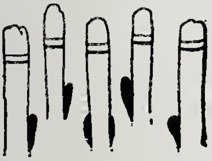


Fig. 1.

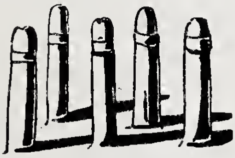


Fig. 2.

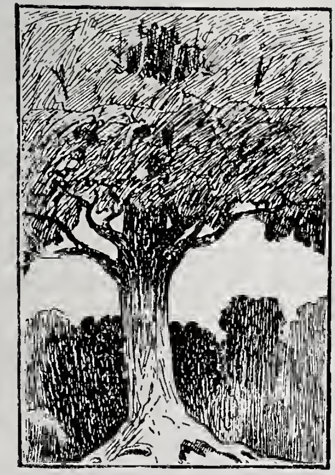


Fig 3.

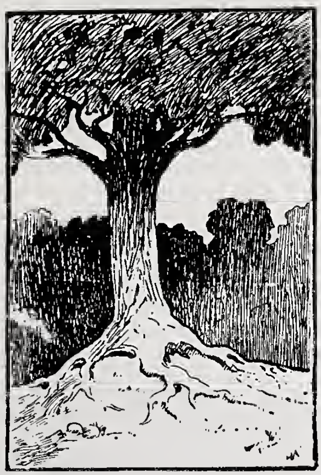


Fig. 4.

ator's back. Now, it is plain that anything lighted in this way could not stand out as it ought to do. The light should always come from one side — very much from one side if atmosphere and stereoscopic effect are aimed at. A glance at the drawing will show precisely what I mean. In Fig. 1 the sun is supposed to be directly behind the spectator, while in Fig. 2 it comes from the side. In the first picture there are no shadows and no rotundity; in the second things stand out. There are only a few posts in my diagram, and the effect in Fig. 1 is not so confusing as it would be in a real photograph, but still, it serves to point out the moral of my remarks.

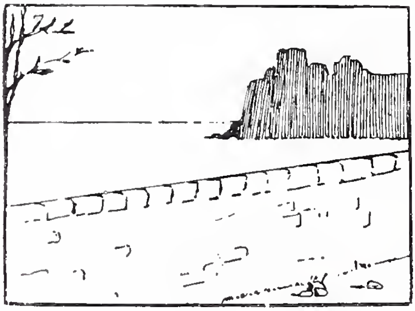


FIG. 6.

And now a very common pitfall of selection, with which I must bring my remarks in this division to a close. Always have plenty of foreground or your picture will be too heavy. Over and over again I see photographs of big oak trees in which half the space is given up to the topmost portion, with a consequently ill-balanced effect. One must have "roothold," so to speak. A glance at the picture will show what I mean. In Fig. 3 the usual method has been adopted; the bole of the tree has nothing to support it, and a disagreeable result accrues. In Fig. 4 the top has been sacrificed to the bottom, with a very much more imposing effect.

Thirdly, proportion. Very few photographers, indeed, appear to have much idea of correct proportion, especially in figure-study work. They *will* insist on having their figures as large as possible, and, consequently, we have reproductions of what are apparently young giants or giantesses when child-figure studies are attempted. I am, happily, able to illustrate this part of my remarks with an actual photograph (Fig. 5). The lighting is charming and the pose satisfactory, save that the legs, being a little in front, made them awkward to deal with. The whole thing, however, is badly out of proportion as regards its original size limits. I have roughly sketched in some surroundings to show how big the model ought to have been, and even a little larger margin than I have allowed was permissible. Notice, however, how very much better and less abnormal the thing looks when treated the proper way. Even the enlargement of the legs is not so pronounced. This crowding-up is fatal, and yet it is present in hundreds of amateur photographs. Let me give this, then, as a hard and fast rule — that no full-length figure on a 5 by 7 plate should exceed 5 inches from top to toe at the very outside. This rule may be carried out proportionately with any other size of picture, but you may take it from me that it is a good rule, and one which must be adhered to.

Fourthly, my brothers, let me just touch on composition. Composition is a terrible wild fowl, and it would take pages to deal with it anything like exhaustively. Composition is the art of arranging things geometrically, but so disguising the fact that it is only when one has the perception that one could see that this has been done. Things should repeat one another, but the repetition should not be palpably plain. Lines should fall into geometrical shapes, but not pronouncedly so. The whole art of

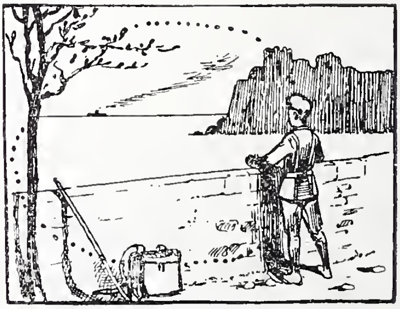


FIG. 7.

Composition is, as I have said before, to practically disguise the means to an end. For a simple example, let us say one wishes to take a view with a wall straight across the foreground (Fig. 6). This wall, with its ugly lines, would be a terrible eyesore if it were not broken; therefore, to correct the horizontal, we introduce the vertical in the shape of, say, a figure, and our aim is accomplished. In the example (Fig. 7), I have adopted the circular treatment, and made it rather pronounced in order to show plainly what I am driving at. Notice how the figure breaks up the wall, and yet how the wall and the figure and the distant landscape, also the tree on the left to correct the interest on the right, all form a nice circle, and, consequently, evolve a pleasant *ensemble*. There are hundreds of other ways of making compositions besides the circle, of course, and these I may deal with at some later date; but the present example will show the main points — continuity, contrast and balance.

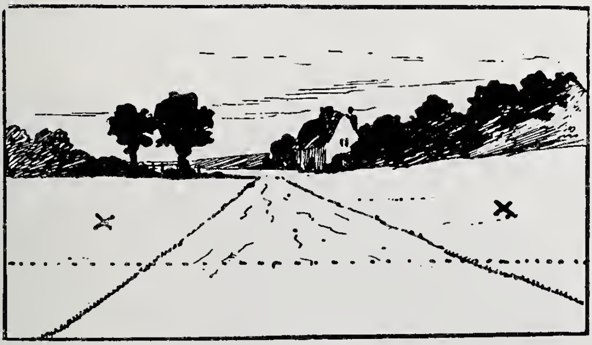


FIG. 8.

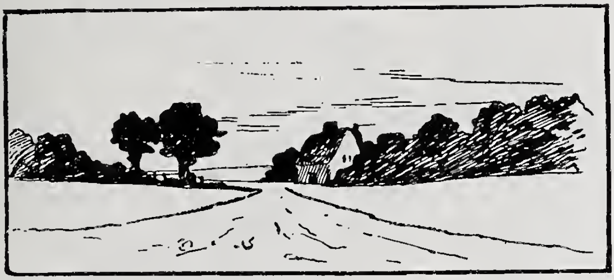


FIG. 9.

And, lastly, let me speak of trimming. Many folks regard trimming as their salvation. They go out and take a whole-plate picture and they snip off a tiny quarter-plate bit, and, because the lines of this bit happen to blend nicely, they consider they have done wonders. Now, trimming is all very well, indeed, but it can be fearfully abused. I reproduce an example. Suppose one wishes to take a panoramic view, as it were, on a half-plate, something after the fashion of the picture before us (Fig. 8). The average man, as a rule, sets up his camera, gets the horizon in, and straightaway slices off top and bottom, with the result shown in Fig. 8. This is obviously wrong. The two bottom sides of the common marked × ×, being cut away, look abnormal and unnatural, while there is also too much ugly road left — or, rather, the ugly road, by its geometrical straightness, thrusts itself upon the eye. Now, in a case like this it will not do. The only thing open to the photographer is to get the scene right on the plate at the beginning, and he can do this by dropping the camera until both the roadway and the common are narrowed up, as in Fig. 9. Although there is actually more roadway showing, the effect is more pleasing, and would be still more so in an actual photograph, because the road, with its ruts, would form an interesting foreground. There are other ways in which trimming could be made to ruin pictures, but if the photographer will only carefully look over his work and see that no distortion of perspective is evolved, he will be able to keep clear and only use his knife to the best advantage.

This ends my homily, which I trust has not been wearisome. I could spin it out several pages more, because there are so many pitfalls which I have been unable to touch. The few I have, however, are the most common, and, therefore, the most to be shouted about. And so let me close my remarks by thanking you for your kind attention, and trusting that some of the seed that I have sown will fall on good ground and eventually blossom forth in the shape of more careful work.—*Peter Eland, in The Photographic News.*

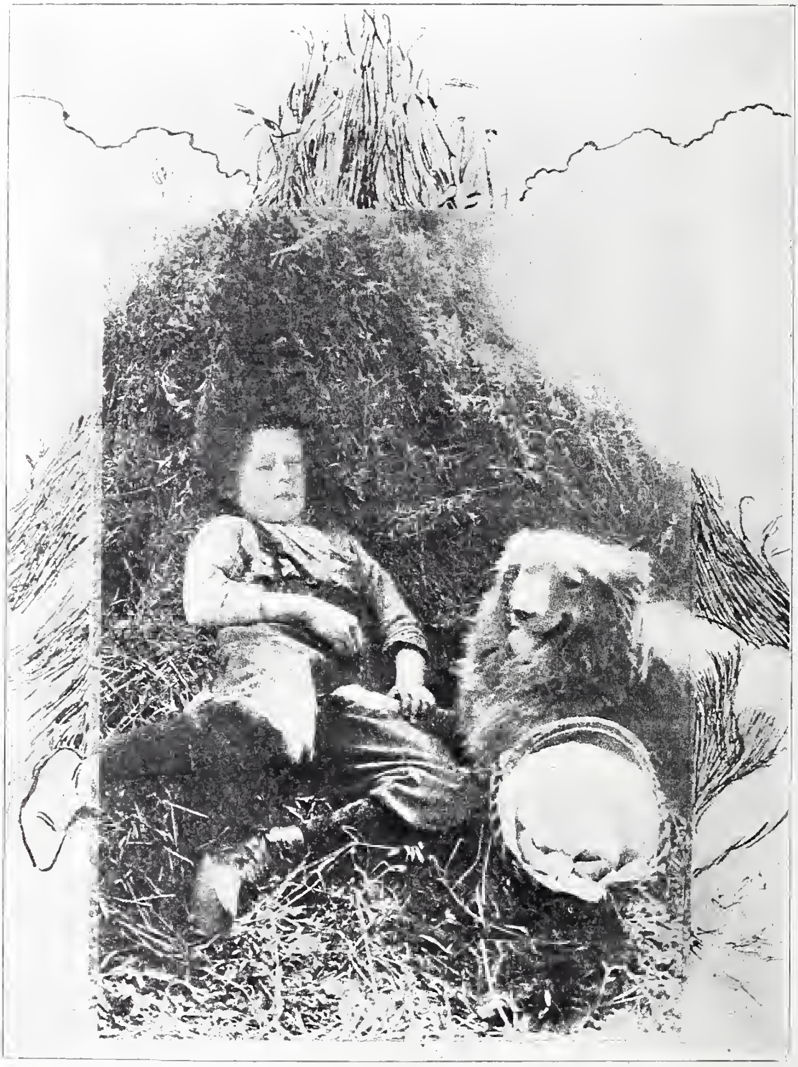


FIG. 5.

A NOVEL METHOD OF PRODUCING PHOTOGRAPHS.

In the form of a lecturette given before the members of the portfolio section of the Huddersfield Photographic Society, Mr. J. Schofield, A.R.C.Sc., explained the modus operandi of a process which he had been experimenting with for some twelve months for the production of enlarged photographs resembling in many respects carbon prints. In his opening remarks the lecturer pointed out that although, as far as he knew, the process was not in use by other workers, the idea was so obvious that he did not claim absolute novelty for it. The advantages which it had when compared with bromid or carbon enlargements were, a wider range of color, greater transparency in

Geo. Alexander. Chicago.

CHICAGO SALON.

the shadows and richer prints than could be obtained with the former, greater rapidity of working, total independence of daylight and weather conditions, no necessity to make transparencies or to transfer the resulting image, as is the case in the latter.

To illustrate the former claims, the lecturer had brought with him several prints in different colors, and a toned bromid enlargement. The bromid, although of excellent quality, suffered terribly from the comparison, looking flat and dull, while the enlargements produced by Mr. Schofield's method were rich in tone, with beautifully transparent shadows and a perfect rendering of tone values; in fact, it would have been a difficult matter to detect the difference between them and carbon prints. With reference to the rapidity of the process, the lecturer pointed to a picture measuring 24 by 19 inches, which he had commenced at 11 o'clock one morning and had finished and framed by the same evening.

The working of the process is exceedingly simple to any one possessing a knowledge of the principles of enlarging, and consists in practically the same operations. The first thing, of course, is to have a negative that will produce a good enlargement, i. e., full of detail and gradation, but without clear portions or parts that are perfectly opaque. Assuming that this negative is at hand, the next step is to focus, and this must be done by placing an old negative covered with white paper upon the enlarging board. Having done this, we place in the position occupied by the paper-covered negative a plate of the required size, and here the worker must decide upon the color of the resulting image, and the method he will adopt for obtaining it. Should he wish to produce his color by toning, any slow speed of plate ("process" or similar) may be used, but should he desire to obtain the color by development, a plate with a lantern-slide emulsion is to be preferred.

Exposure is made in the ordinary way, and development carried out with any suitable developer, care being taken to obtain the maximum amount of detail, without blocking up the high lights. The plate is then fixed as usual, well washed and dried.

The difference up to this point is that, instead of a positive on paper, we have a positive upon glass, and here comes in the novelty of the process. Having obtained an enlarged positive of the desired color, it is carefully rubbed over with a mixture of terebine and olive oil in equal proportions, to give transparency to the image, and afterward backed up with a paper of any color which the worker may consider most suitable. Here, again, many pleasing effects may be obtained; for instance, a cream paper imparts a warm effect to the high lights and slightly alters the tone of the shadows, while a pale blue paper imparts an exceedingly nice tone to a warm black image, and so on, according to the color used.

In the case of obtaining the color of image by the toning process, the hypo-alum bath will be found to give a variety of brown tones according to length of toning and brand of plate used. Care must be taken to prevent the plate lying on the bottom of the dish, and this is best done by placing the glass positive upon two pieces of glass tubing of the desired length.

The possibilities of this process are many, and to those workers who are interested in the production of large prints for exhibition purposes, but who owing to lack of time in the day find carbon work out of the question, should come as a blessing.

UNAL.

A sufficient quantity of the A. G. F. A.'s new developer, "Unal," has been given to the undersigned for the purpose of thorough tests.

After exhaustive trials with the new developer, which is rodinal in a solid form, the undersigned ascertained the following:

Unal is easily soluble in water. The watery solution changes its color slightly to a red-violet, yet this coloring does not affect the development; exposed to the air, the color increases;

C. O. Axell. Winnetka.
CHICAGO SALON.

however, the reduction power of the solution is not weakened. The solutions of Unal keep very well and for a considerable time in well-closed bottles. Following the instructions of the factory, 2 grams of Unal was dissolved in 100 cubic centimeters of water. The developer so produced worked quickly, had no inclination to fog and produced excellent and soft negatives. Attention must be specially called to the very slight inclination to the formation of veil. Potassium bromid has a considerable restraining effect upon Unal.

To get more powerful negatives, 2 grams of Unal were dissolved in 75 cubic centimeters of water. The negatives so developed were extremely brilliant. The high lights were amply dense without any spots, the shadows full of detail and clear.

A solution of 2 grams of Unal in 100 cubic centimeters of water gives an excellent developer for bromid papers. It is, however, advisable to add some drops of a ten per cent solution of potassium bromid. The prints produced with this developer are very brilliant and possess very pure whites. The color of the image is a beautiful black.

Unal is also very well suited for stand-development. The best results were obtained with a bath that contained 10 grams of Unal in 6,000 cubic centimeters of water. This bath keeps for some time and gives strong negatives of good detail. According to the length of time the plate is exposed, development will take any time from four to eight hours.

John Dolman. Philadelphia, Pa.
CHICAGO SALON.

Unal is a very interesting developer, well fitted for a variety of work, and can be used with success for the development of portraits, reproductions, bromid papers, transparencies, etc.

Unal will, in consequence of its good properties, very soon secure numerous friends, not only amateurs, but also among the professional photographers.

DR. R. A. REISS,
Principal of the Photographic Laboratory of the University.
Lausanne, Oct. 25, 1903.

TABLE OF PARTS.

Many chemists and formulæ-mongers express formulæ in "parts," much to the consternation of beginners, who generally prefer to see ounces, grains, etc. The following table will, therefore, be useful in saving calculations as to the required amount of grains, etc., when expressed in parts:

PARTS.	GRAINS.	MINIMS.	GRAMS.	CUB. CENTIMETERS.
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
10	10	10	10	10
20	1 scr.	20	20	20
50	50	50	50	50
60	1 dr.	1 dr.	60	60
100	3 drs. 1 scr.	3 drs. 20 m.	100	100
250	½ oz. 32 grs.	½ oz 10 m.	250	250
500	1 oz. 62 grs.	1 oz. 20 m.	500	500
1,000	2¼ ozs. 16 grs.	2 ozs. 40 m.	1,000	1,000
2,500	5½ ozs. 94 grs.	5 ozs. 1 dr. 40 m.	2,500	2,500
5,000	11¼ ozs. 79 grs.	10 ozs. 3 drs. 20 m.	5,000	5,000
10,000	1 lb. 6¾ ozs. 49 grs.	20 ozs. 6 drs. 40 m.	10,000	10,000

The ounce of solids in above table is avoirdupois of 437.5 grains.

SIR WILLIAM RICHMOND ON PORTRAITURE.

"My trick is very simple. I don't make any studies to begin with; I used to, but I found them valueless. My method is to observe most closely every habit of expression, every movement of the head, and the shape of the hands. I may ask for thirty or forty sittings before I am content, and at each sitting I am watching and remembering. As a rule I never paint a portrait unless I am staying in the house, and then I am observing my subjects always. I find the habit of carrying or moving the head a great index. You have no idea, unless you have studied the matter, how the slight inclinations of the head affect the general and permanent appearance of a person. Then I take notice of every line and mark in the face — for surely there is never a line in a man's face which his own life has not written there. I dig down into him, I get at the best of him — the soul, the consciousness, the moving force. I don't want to catch an evanescent expression, however charming or engaging — I want the man, the whole of him, the man that lives and thinks and dreams, and hopes and works and loves. When I have got this in my mind I work at my picture, but only just so long as the impression in my mind retains its force and lucidity. Immediately that begins to flicker and cloud I drop my brush. Perhaps the impression lasts an hour. And I recommend the young painter to live thus laboriously, if he wants his work to live — if he wants it to live more than forty years. Don't let him be led away by all the modern talk about paint. Let the young painter stop his ears against art cackle. Study Watts's portraits. There isn't one that is not poetic. The worst of them has in it the magic of a poet's conception. The noble mind of the painter reveals itself in those portraits; there is no trickery there, no cleverness, no dexterity, but sheer glory of composition — the artist's soul burning there forever. Cleverness is a poor substitute for soul; but in this age anything may take soul's place."

IRON DEVELOPERS FOR GASLIGHT AND BROMIDE PAPERS.

Despite the many modifications of hydroquinone developers which have been suggested for gaslight and bromid printing-papers, there is no chemical so capable of giving variety of tone as the organic salt of iron. Ferrous oxalate is one only of the many organic salts of iron which can be utilized for development, and while in a normal form it gives the purest and most perfect blacks with a normally exposed paper, it can by a variation one way or the other be made to produce a great number of warm tones.

In Pizzighelli's work, "Dies Photographischen Processe," the author describes several of the most useful forms of iron developers, and a short review of these should be useful to those who wish to leave the ordinary routine of black and white work.

There is perhaps no such wonderful salt of silver as the chlorid, for though with normal exposure and development it is possible to obtain the truest blacks and harshest contrasts with it, yet with overexposure and modified development one can produce bright red pictures full of the most delicate gradation. A chlorid paper has the further advantage that it may be exposed either to daylight or to artificial light, and may be manipulated throughout in weak gaslight. Moreover, as the so-called slow bromid, and gaslight, papers partake very much of the nature of a chlorid paper in chemical characteristics, we may apply the following remarks to all three classes.

The foremost and best known of all the iron developers is, needless to say, the ferrous oxalate. Two stock solutions are as a rule used, one containing one part of potassium oxalate to each three of water, the other consisting of ferrous sulphate in the same proportion, but acidified with sulphuric, acetic or

Chas. E. Barr. Albion, Mich.

CHICAGO SALON.

citric acid. In order to obtain red tones with the ferrous oxalate developer we must give from five to ten times normal exposure, and carry out development with a solution made up as follows:

Oxalate stock solution	1¼ oz. or 40 c.c.
Ferrous sulphate sol.	150 min. or 10 c.c.
Water	8-10 oz. or 250-300 c.c.
Ten per cent citric acid sol.	1 dr. or 4 c.c.
One per cent bromid sol.	1 dr. or 4 c.c.

Sepia tones are obtained by developing for a short time first in the normal solution (four parts oxalate+one part iron), and transferring to the above solution as soon as the half-tones have begun to appear.

The iron-citrate developer is also very useful in producing red tones, and its action is fairly certain. The best way to prepare this is to make up three solutions as follows:

A.— Citric acid	15 parts
Water	70 parts
Ammonia (.91)	16 parts

When dissolved, make the solution neutral, and then add 15 parts more of citric acid, and filter.

B.— Ferrous sulphate	10 parts
Water	30 parts
Acidify with sulphuric acid.	
C.—Common salt	1 part
Water	30 parts

In order to obtain rich red tones with this developer, take 90 parts of A, 30 of B, and 6 parts of C. The exposure must be gauged so that this strength of developer gives a sufficiently vigorous print.

Next on the list comes ferrous tartrate, which is made by mixing ammonium tartrate with the sulphate of iron. A saturated solution of ammonium tartrate is mixed with one-third its volume of the iron solution above B, and a little chlorid added. The drawback to its use is that when mixed the developer soon discolors, and a precipitate is liable to be formed.

Iron acetate may also be employed, and the following will be found a convenient method of preparing it. Take a fifty per cent solution of glacial acetic acid, and carefully add ammonia to it until when tested with litmus paper it appears to be neutral; a concentrated solution of ammonium acetate is thus formed, and with it the developer is made up thus:

Acetate solution	90 parts
Iron solution (B)	30 parts
Salt solution	5 to 6 parts

This gives a grayish image, but on increasing the proportion of iron the picture becomes more black, while on using three parts of iron to one of acetate we get a hard and very dense print. The acetate developer, when mixed, easily oxidizes, but the separate solutions of course keep almost indefinitely.

A simple formula for producing velvety blacks on bromid papers is this:

A is a solution of

Potassium oxalate	1 part
Water	4 parts

B consists of

Ferrous sulphate	1 part
Water	3 parts
Citric acid (1 per cent solution)	1 part

Take 3 parts of A and 1 of B. For softer prints use more of A.

The objection commonly advanced against all these iron developers is that they are messy, syrupy and sticky, and yet when suitable formulæ are employed iron is capable of yielding results equal to any and every other developing agent. We have found the citrate formula excellent for giving red tones, especially with chlorid papers, and the others, as given by Pizzighelli, are all worthy of considerable attention.—*British Journal of Photography.*

T. THORNE BAKER, F.C.S.

MODIFIED METHOD IN GUM BICHROMATE.

Mr. Hugh Allen, in *The Amateur Photographer,* says he can get a scale of tones and softness of effect equal to an ordinary P. O. P. print when working gum-bichromate, by using a thick coating of gum. He recommends the following formula:

Warm water	6 drams
Stir in powdered bichromate of potash	30 grains

which gives saturated solution when cold.

Then stir in powdered gum, 90 grains (should dissolve in fifteen to thirty minutes), rub in regular black 3 grains, coat on sized paper, using about 1½ fluid drams to a sheet 10 by 12 inches. No softener required. The amount of pigment should be kept to the minimum required to give shadow density.

Development is automatic by floating on cold water, face down.

Printing must be done on clear days, as results are unsatisfactory in very dull weather, but direct sunlight is better avoided.

DECHROMATING GUM-BICHROMATE PRINTS.

It occasionally happens that the greenish oxid of chromium left in the print interferes appreciably with the color or tone, and as a means of removing the green chromium compound the following bath is recommended by H. C. Kosel, in *Apollo* of October 8 last (p. 237): Powdered alum, 50 grams; water, 1,000 c. c.; strong hy-

Sig. E. Berg. Chicago.

CHICAGO SALON.

drochloric acid, 15 c. c.; acid sulphite solution, 10 c. c. We may remark that the "acid sulphite solution" is a saturated aqueous solution of sodium bisulphite, through which sulphurous acid gas is passed until no more is absorbed: but this product is not always easy to obtain. As a substitute, it will suffice to double the quantity of hydrochloric acid and then to add 15 grams of crystallized bisulphite of soda. The print should remain for a few minutes in the dechromatizing bath, and after this treatment there must be a very thorough washing, to remove all traces of acid. The greenish color of the chrome oxid is most noticeable when prints are made in pure carbon black, and it is just these prints which withstand treatment in the acid baths. Prints in the various ocher or earth colors are likely to suffer considerably.

D. H. Brookins. Chicago.

CHICAGO SALON.

El Boletin Commercial, organ of the Latin-American Club of St. Louis and Foreign Trade Association, in its January issue has a portrait and appreciative notice of the new president of the association, Mr. F. Ernest Cramer, well known in photographic circles as first vice-president of the G. Cramer Dry Plate Company. The association anticipates all kinds of prosperity during Mr. Cramer's administration.

THE photoengraving department of the Illinois College of Photography is now in full swing, the necessary practical instruction having been secured by the department providing the engravings used on one of the Effingham newspapers. Eleven students have already enrolled for the two years' course, which costs $300, with a laboratory fee of $10 quarterly. A catalogue, giving particulars of the new departure, is in preparation and will shortly be issued.

THE Photo Club at The Hague intends to hold an international salon from June 12 to July 24. For particulars apply to the secretary, W. H. Idzerda, Conradkade 63, The Hague, Holland.

UNIVERSAL EXPOSITION, ST. LOUIS.

DEPARTMENT OF LIBERAL ARTS.

CIRCULAR NO. 9.

Regulations governing the admission of photographs as exhibits in the Universal Exposition, to be held at St. Louis, April 30 to December 1, 1904.

That portion of circular dated July 29, 1903, relating to the admission of photographs, is hereby rescinded.

The following information is submitted for the guidance of photographers who contemplate entering photographs as exhibits in the Universal Exposition, which opens in St. Louis, April 30, 1904:

First. Applications for exhibit space should be made without delay on forms or blanks furnished by this office. Full information should be given as to the number, size and character of pictures to be submitted, together with a sketch showing proposed arrangement of walls, folding screens or in albums.

Second. All pictures offered must be mounted, matted and suitably framed or otherwise properly prepared, for ready installation in the space devoted to photographs, the owner assuming all risk and expense of shipments to and from the Exposition, as well as the installation and care of same while on exhibition.

Third. All photographs accepted as exhibits will be subject to review by an International Jury of Awards, composed of members from each of the several countries making photographic displays.

Fourth. All photographs should be shipped so as to reach the Exposition not later than April 1, 1904. Shipping labels will be sent to accepted exhibitors on application to this department.

The railways have granted free return of goods on payment of full rate to the Exposition, provided shipments are made in accordance with adopted regulations.

Fifth. Freight and express charges and all charges appertaining to the

H. G. Brinsley. Chicago.

CHICAGO SALON.

transportation of photographs, must be fully prepaid at the point of shipment, and the goods delivered at the Liberal Arts Palace clear of all charges of every description incident to transportation.

Sixth. Photographs offered as exhibits must be the individual work of the exhibitor named in the formal application for space.

Seventh. There is no charge for exhibit space, and suitable screen walls will be constructed in the Liberal Arts Palace on which photographs may be hung.

Eighth. Special adornment of space or extra lighting will be at the expense of the respective exhibitors requiring same.

Ninth. General rules governing exhibits, their installation, the system of awards, shipping regulations, etc., will be furnished on application to this department.

JOHN A. OCKERSON,
Chief, Department of Liberal Arts.

PHOTOGRAPHERS' ASSOCIATION OF ILLINOIS.

The dates fixed for the next convention of the above-named association are May 3, 4 and 5, 1904, at the Coliseum, Aurora, Illinois. A very fine and instructive program is being arranged, and will soon be made public. The secretary, E. C. Pratt, of Aurora, is busily engaged on the official program, which will be a gem of its kind.

Among the lectures and demonstrations already assured is one by Mr. George G. Holloway, secretary of the national association, and one of the most successful photographers in the United States, and also one of the best demonstrators of his methods before photographic conventions that can be secured. Mr. Holloway will lecture and demonstrate, with living subjects and the real accessories, many valuable points in practical studiowork. There is no doubt that Mr. Holloway's talks will be of great assistance to all who attend.

Prof. Felix Raymer has also agreed to deliver a lecture and demonstration on practical lines, both in daylight and in artificial methods of lighting. A most instructive talk is assured by this gentleman, and his presence at the convention will bring out many helpful talks during his visit the value of which can not be estimated here.

The usual medals and prizes are to be awarded at this convention, and perhaps a loving-cup or trophy not previously competed for. It is hoped that the exhibits will be forthcoming in even larger numbers than ever, and photographers should commence getting their good negatives laid by and new ones made now, during the dull season, so as to be able to pick out some " winners " for this auspicious occasion, and then when it is time to send on the exhibit, there will be no need of rushing things through.

A trolley ride to Chicago on the " 100-mile-an-hour electric railway " is one of the entertainments promised, with perhaps a theater party or banquet in the city by the lake. Everybody come, send an exhibit and help the good work on.

TO TITLE A NEGATIVE.

Lay it on a piece of white paper, glass side up, and place a drop of retouching fluid where you wish to write the title. Rub it into position with the finger, let it dry for a few moments and then with a medium soft pencil write your title. Since the writing is on the glass side, it does not need to be reversed. You may take a rubber stamp and print in the ordinary way, as the medium will hold the ink. Of course, the whole thing may be rubbed off by using a little turpentine. H. L. DILLON.

AKRON CAMERA CLUB SALON.

The Akron, Ohio, Camera Club announces that its first salon will be held from April 4 to 9, 1904. For particulars, apply to the secretary, Charles E. Smith, Akron, Ohio.

The Photo-Beacon Exposure Tables are guaranteed correct. Price, 25 cents.

St. Louis, Nov. 8, 1903.

Dear Photo-Beacon,—The time has come when it is very disagreeable to paddle around in cold water, even in sunny St. Louis. Washing prints is generally a nasty job when the temperature is low. I therefore want to advise the readers of the Photo-Beacon of a cheap and effectual device for washing prints by which you can keep your hands dry. It is not patented by me, because everybody could have it made so cheap and beat me out of my royalty.

My print-washer is made as follows: Take a dishpan — either buy one, if you have to, or take one from your mother's stock. Take it to a tinner's and have him solder a nozzle into the pan, near to the bottom, a hole having previously been punched for that purpose. This nozzle must be soldered at a tangent. The nozzle must be about 3-16 inch at the small end — the large end may be made to fit whatever hose you happen to have. Punch a hole near the top of the pan to let the water flow out. The hole ought to be a little in advance of the nozzle or a print might clog it up. Now put the washer in a sink, bath-tub or other convenient place and let 'er go.

F. M. Cable. Chicago.

CHICAGO SALON.

This is such a cheap arrangement that you can try it and then publish it with your endorsement.

The above will wash as many prints as any amateur will make at a sitting.

Wm. T. C. Quehl.

In our advertising pages this month is shown a focusing magnifier designed to examine the image formed at the back of the camera. It draws out for use like a telescope, closes for compactness and is provided with a screw adjustment to suit the user's eyesight. This magnifier, listed at $2.50, is made by Taylor, Taylor & Hobson, and shows the same beauty of workmanship and convenience in handling so noticeable in the Cooke anastigmats made by this firm.

QUESTION BOX.

Editor Photo-Beacon:

I see in your December issue that you are asked occasionally a method of photographing show-windows to avoid reflections, and you therein recommend a black screen erected back of the camera. I have never tried your way, but for the benefit of many who may not be fixed to use a black screen, I will offer a method that I have used very many times and very successfully, and that is to make the exposure at night, leaving all the window lights going. I use the Orthonon double-coated plates and give long exposures, something like twenty to thirty minutes, according to speed of lens, etc. Persons passing along do not mar the image, if they are not allowed to stop too long in front of the window.

E. C. Pratt.

Bradford, Ark., Dec. 26, 1903.

Dear Sir,— Will you kindly print in the "Question Box Department" of Photo-Beacon a good, cheap formula for making mucilage for backs of "squeegeed" prints so it will dry similar to postage stamps, etc.

I like the paper and think more attention should be paid to this department.

Yours truly,

W. F. Christian.

Answer.— To retain the gloss of a squeegeed print, a mountant must be used that contains very little water, and one that will set almost instantly, so that the moisture can not penetrate the gelatin film. Our reader's request can not be complied with. He can, however, mount the prints in the ordinary way while they adhere to the plate, trimming the thin mount close to the print when the latter peels off, and then with a narrow band of hot glue fastening the whole thing to the ordinary mount.

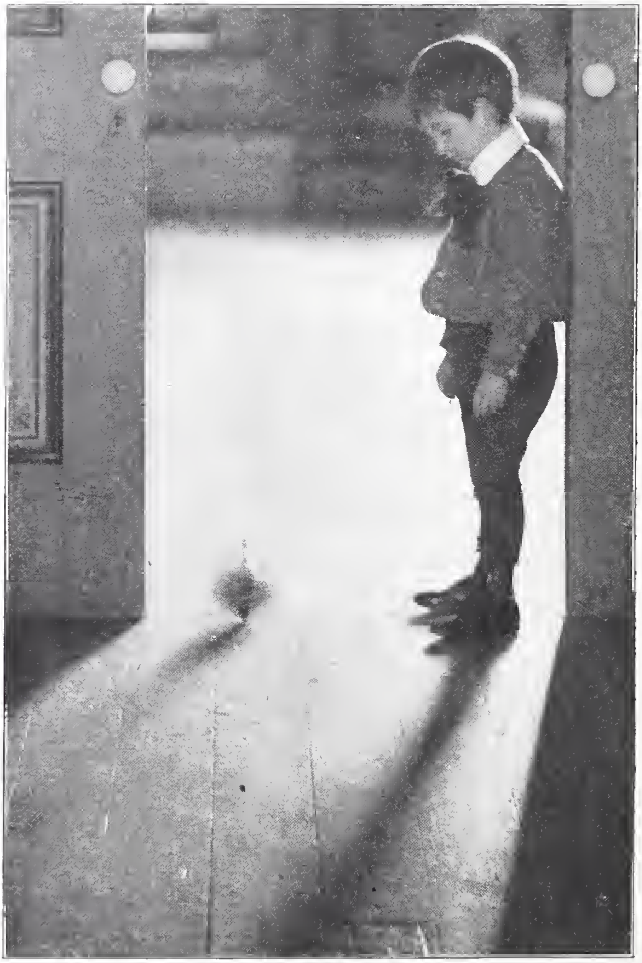
EDITORIAL TABLE.

From G. Gennert, 24 E. Thirteenth street, New York, comes the 1904 edition of the "British Journal Almanac," which has now reached the rather bulky size of 1,604 pages. Its most noteworthy feature is a considerable reduction of the space devoted to specially contributed articles with a corresponding increase of that given over to the really more useful epitomes of the year's progress, novelties and miscellaneous information. It is about the best reference book on photography. The American edition is decidedly limited and orders should therefore be placed at once. Price in paper, 50 cents; in cloth, $1.

From Wilhelm Knapp, Halle a. S., Germany, we have received a copy of "Die Photographische Kunst im Jahre, 1903," which is devoted to outlining the state of pictorial photography in the year now gone. They do some things better in Germany, and this is certainly the finest book of the kind yet received. One hundred and eighty-four pages, 8½ by 11½, of fine, enameled paper, with a wealth of beautiful half-tones and exquisite letterpress, make a volume that even the most fastidious would like to own. Price 8 marks, say $2.

The California Camera Company, Alameda, California, send us a sample of their latest product, which is polychrome toned with platinum, so beautifully black that it looks like a real platinum print. It is on fine, heavy paper, so that a mount is entirely unnecessary. The paper shows fine color and gradation.

"How to Make Photographs in Fifteen Different Colors" is the title of a booklet giving concise instructions in carbon printing, that we have received from G. Gennert, 24 East Thirteenth street, New York. This is a new edition, but we followed the old one very carefully some years ago, when making our first essays in this fascinating process, an experience that brought a great deal of pleasure. Incidentally, it may be mentioned that this firm supplies all the essentials needed by a beginner for the reasonable sum of $5. This includes chemicals, tissues, dishes and tools, and that amount of fun will be easily got out of it. The outfit is made to "nest" so that it takes up very little space.



J. H. Field, Berlin, Wis.

FIRST PRIZE.

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 805 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XVI. MARCH, 1904. NO. 3.

FOURTH CHICAGO SALON.

THE PICTURES — SECOND NOTICE.

Lee Hamilton Keller showed three fine studies with good rendering of tone.

John F. Kreuger leaves much to the imagination in his low-toned picture, but not too much. He handles masses well.

George F. Kunz always chooses simple subjects and manages them well, reveling in both fine detail and tone, "A Country Road" being a good example.

Louis A. Lamb had something unique in a bi-gum print that was toned in three different colors.

George W. Leighton has a good horse picture.

S. D. Lisle. Variety enough in this gentleman's collection, a thistle and a lady, the former standing up erect in all its proud defiance, the latter with a rather sad face that appeals to one.

W. G. Littleton. His subjects are very simple in material but difficult in lighting, yet he renders them beautifully.

Charles H. MacDowell is more successful in rendering fine tone values than in choosing good compositions.

Frank E. Marks. This worker has a great deal of variety in his subjects, and shows as much versatility in their treatment, yet all are good. If anything, a little more detail would be an improvement.

Clayton W. Mogg. "The Thaw" is a really good February effect, bleak in the extreme, but "Evening Mists" is hardly misty enough.

F. E. Monteverde shows but one print, but it is full of subtle gradation in every part.

E. F. Oyster in "The Anthem" has a very formal composition that lacks something to make it interesting.

Irving K. Park, in "Almost Home," shows a fine snow scene in which the dog's action is good. "Maternal Instinct" is a simple subject that appeals to the masses.

Mrs. W. W. Pearce showed a very pleasing child study.

Adolph Petzold has ambitions to handle his material in masses, but I think he overdoes it at the expense of quality, as in practically every print his distant objects look as close as the near ones.

W. B. Post still revels in gray, and with one exception his prints are low-toned but delicate in their gradation.

George T. Power has a portrait that is very unconventional in pose, but is good photography and good in tone. His landscape is a bit of good composition.

Haydn Randall has one print that would satisfy the most extreme f/64 crank, but the quality is all right.

Carl Rau, in "Night," has the only bit of pure decoration in the Salon. It is full of fine curves and tone. "Misty Morning" is quite an unusual treatment of this subject.

Mary F. Robinson exhibited a portrait, rather formal in arrangement, but full of gradation.

Clarence M. Rodgers had a sweet study of a child.

J. L. Rosenberger, in "A Spring Symphony," presented a very simple composition, purely a study in spacing with simplicity in tone value.

J. W. Schuler, with "Return of the Flock," has a fine evening effect, the sheep being capitally arranged.

Walter A. Scott has fallen in love with sand, his three pictures being either sand dunes by the seashore or in the desert. They are good, whether he aims at bold, vigorous effects or handles delicate grays with tenderness.

Carle E. Lemon concentrates his thoughts upon masses and line, with good success.

V. V. Snook, in "Simplon Pass," has splendid photography, good composition and good tone.

Herbert F. Smith showed a very successful sheep picture in "A Friendly Shade."

Victor Stouffs, Brussels, Belgium, I think, took the honors of the Salon. Such commonplace subjects as smoking chimneys, an iron bridge, are treated with a boldness and an originality that were simply refreshing. His subject matter is arranged in vigorous masses, sometimes blending into each other, sometimes decided black and white being in bold juxtaposition, but no matter the combination the effect is pictorial. His work must have been food for thought to many.

Amelia Van Buren, in "Frances" has a fine study in character and tone.

Frank L. Venning showed "Chicago Harbor" in a new light with bold massing suggestive of bigness and industry.

Jan W. Voresh had fine tone in "A Head Study."

Robert E. Weeks has advanced much in tone quality during the past year, but his composition is not so good.

Arthur W. Wilde had eight pictures, the record of the Salon. His work is variety itself, but all of them exhibit keen artistic sense, the masses and gradation in all being very good.

Walter Zimmerman, in "Shell Gatherers," has a well-arranged study of poor workers.

PICTORIAL COMPETITION No. 69.

A really good set of photographs was submitted in this competition, and it took the judges considerable time to make their decision. The following are the awards:

First Prize — J. H. Field, Berlin, Wisconsin.

Second Prize — L. J. Courtright, Fort Madison, Iowa.

Third Prize — Mrs. Eleanor W. Willard, 21 South Prospect street, Grand Rapids, Michigan.

Special mention — Mrs. Pearce, H. D. Oberholzer, Belle Johnson, George Manuel, A. H. Moberg.

PARTICULARS OF WINNING PICTURES.

First Prize — None given, evidently a platinum print, toned.

Second Prize — None given, evidently a platinum print, toned.

Third Prize — Made in October, 3 P.M., dull light, on Seed's Gilt Edge plate, with Darlot portrait lens, open stop. Exposure ½ second. Printed in Kallitype.

Since January 1, I have got about a dozen letters finding fault with the prize pictures. Now, I like kicks and here is the reason why. When Luther Burbank, the great hybridiser and improver of flowers and fruits, decides upon developing a plant he says the first thing he does is to "upset" the plant. For thousands of generations it has come along in the same old way, but he wants it to vary, and so he devises methods according to his past experience whereby he will overthrow the plant's stability and call into operation its tendency to variation, which has been lying dormant for perhaps a thousand years.

The kicker is one who has been upset, so there is hope for him. The more his equanimity has been disturbed the farther will he in all probability travel.

Now, I don't make the prize pictures, neither do I judge them. Every month I get a big lot of prints submitted, and just as often I get from three to seven people of artistic taste to choose the best. What is published represents pretty fairly what is liked by the best educated tastes of to-day, not ten years

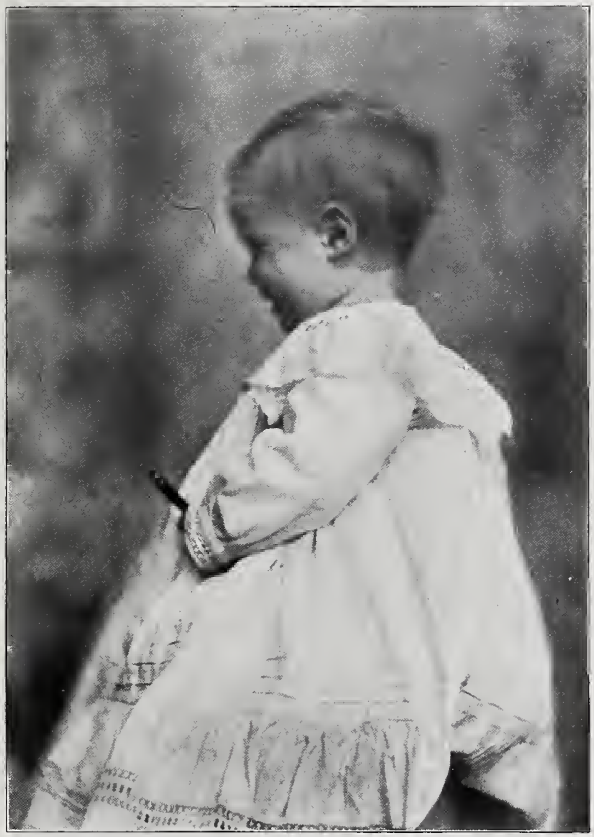
---

For the principles of composition read No. 4 of the Dime Series of Photographic Handbooks, price 10c. Published by The Photo-Beacon Company.

ago, nor what will be considered good ten years hence. It all lies in the point of view; almost everything does, and points of view are always changing. Some people, in fact the majority, are very conservative and resist all kinds of change. They inherit their religion, their politics and goodness knows what not. The first individual to write on their brain owns them as long as they live; they will fight a new idea to the death and die for the old.

But the world do move, as the old darkey said, and I am glad The Photo-Beacon is able to reproduce good pictures made within a year. One writer sent me a sample of his work, being desirous that I should see what a sharp picture looked like. The funny thing is that it was in reality very indifferently focused, and as a matter of fact, there was really no good feature in the print.

The reproductions are generally not what I would like them to be. Most of the prize pictures are in platinum, toned sepia, which is about the hardest color that could be selected. A few days ago I had a talk with the photographer in the engraving firm, and he assured me I was hastening him into an early grave.



L. J. Courtright, Ft. Madison, Iowa.

SECOND PRIZE.

Now, to get down to serious business, let me begin by giving competitors one good, plain hint, which was suggested by a remark of my son. He is fast getting educated in art matters, and this month he was freely condemning the judges' decision, insisting that he considered Mrs. Pearce's picture at least second, giving as his strongest reason, "look how it stands out from the paper." This was the very point that condemned it, for a good picture stands in. The surface of the paper and the part of the subject that is nearest should appear to be in one plane; all other parts should appear to recede from that. Take Mr. Field's print; the door and the surface of the paper are one, but the wall beyond appears far back from the paper. Compare Mrs. Pearce's baby, where the figure is a bit of beautiful solidity, but all on the surface.

I will allow my readers to digest this one point and will therefore refrain from treating of others.

F. DUNDAS TODD.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else.* The outside of the package, in addition to our address, may bear that of sender. Accompanying a letter or postcard should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.
2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.
3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.
Second—Books to the value of $2.50.
Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

FUTURE COMPETITIONS.

Competition No. 71 — Snow pictures. Closes March 31.

Competition No. 72 — Waterscapes. Closes April 30.

Competition No. 73 — Branch of a tree without leaves, with special consideration of decorative effect. Closes May 31.

Competition No. 74 — Domestic animals. Closes June 30.

Competition No. 75—Genre pictures, or pictures that tell a story. Closes July 31.

Competition No. 76 — Branch of a tree with leaves, with special consideration of decorative effect. Closes August 31.

Competition No. 77 —"At Home" portraiture, that is, portraits not made in a studio. Closes September 30.

Competition No. 78 — Snap-shot pictures. Closes October 31.

Competition No. 79 — Landscapes. Closes November 30.

Competition No. 80 — Flower pictures. Closes December 31.

THE CULT OF VAGUENESS.

Experience teaches us that when an artistic school ceases to draw its inspiration from nature, and adopts academic methods and mannerisms, that school immediately commences to decay.

Now the present tendency of a school of English photographers is to adopt an academic manner of oversimplification of tone, and an academic method of oversimplification of detail, that may lead to disastrous results. For simplification of tone has its artistic limits, otherwise the tones might be subdued to the verge of monotone, and result in dull monotony that would rob the picture of life, strength, and interest. And simplification of detail, desirable as it often is, may be obtained in such a manner, and carried to such an extent, that it suggests confusion rather than simplicity.

No one demands that all pictures should possess a full range of tones from a dead white to a full black, and a simplification of tones is often necessary, but when one sees a picture printed in a tone and a half of light drab, or a couple of semi-tones of sepia, without a single note of strength, one can not but wonder whence these photographers draw their inspiration. Certainly not from nature as seen by man,* nor from nature as interpreted by art, but rather from the fogs of London and the grime of the Black Country. Or, perhaps, this inspiration is no inspiration at all, but an academic mannerism, fathered by the iron hand of the Royal Photographic Society, and mothered by the half-understood influence of impressionism. Yet, when one comes to think of it, how entirely most of this quasi-impressionistic work lacks those qualities which were the very root, the very fountain spring, of true impressionism. How destitute it is (at least most of it) of that strength and power which the impressionistic painters drew from their working in the open air! How it reeks of the studio!

---

* Of course, I am not referring to those rare moments when nature softens everything into infinitely tender tones of pearly gray, or to any truthful record of nature, but to the wilful suppression of tones.

Again, simplification of detail is often necessary, and it is impossible to fix the limits as long as the simplification consists in softening detail by the natural methods of gum, uncorrected lenses, or control of focusing; but when detail is "simplified" into a photographic blur, unknown to any form of art expression except unnatural photography, and suggesting nothing except the confusion of the optic nerve that results from a bilious headache, then the result is altogether abominable.

Mrs. E. W. Willard, Grand Rapids, Mich.

THIRD PRIZE.

Yes, give the ultra-simplifiers the credit of purity of intention — acknowledge that they started with the aim of leaving out the unnecessary and simplifying the whole; but the fact remains that some are wandering into the paths of vagueness, and others have already attained it. And the time will come — in some cases one is tempted to believe that it has already come — when the original aim will be forgotten, and vagueness cultivated for its own sake, under the idea that it is artistic.

By vagueness I do not mean breadth of treatment, for what could be broader than Evans' portrait of Bernard Shaw? I do not mean elimination of detail, for this is conspicuous in Demachy's "En Vitesse." I do not mean diffusion of focus, for Job's "Foot Track" shows a coarse focusing. I do not mean softness, for this is noticeable in Blount's "Lingering Autumn." And yet all these are destitute of a trace of vagueness. But have we not all seen photographs hung in prominent exhibitions that are like half-tone reproductions (printed on a porous paper) of mezzotints pulled from much-worn plates, or like gum bichromates, pigmented with mud and developed in ditch water, or like wash drawings sketched under the influence of alcoholic biliousness? And if all this is not vagueness, what is?

It's but cheap trick work after all, for any one who has the technical skill to underexpose and underdevelop his negative: any one who has the courage to shake his camera, or sun down the whole surface of his carbon, or dry his pigmented gum before a warm fire and afterward overprint; any one who has the cunning to insert a sheet of glass between his negative and printing paper, can achieve a masterly vagueness.

Now vagueness is entirely foreign to the natural methods of photography; in fact, the only natural photographic method by which vagueness can be obtained is the abuse of the gum-bichromatic process, for even the pinhole or spectacle lens fails to give vagueness unless improper liberties are taken with the exposure, and it is simply pitiful to see the joy of the man who discovers, for the first time, that ozotype can be smeared, and smudged, and messed about with a brush, or that his print may be blurred into a dizzy nightmare by inserting a sheet of glass between negative and printing paper. Then surely the achieving of results that are foreign to an art method, that are contrary to the nature of that method, that can only be brought about by flagrant trick-work, is rank bad art.

If Mr. Cadby occasionally lapses into a perhaps too excessive softness, it is justifiable, because it is obviously due to the use of the Bergheim lens. But when a man starts with a negative having a rich gradation of tones, and succeeds in rendering his print in a couple of tones of mud color; or when he starts with a clear quarter plate, and blurs the enlarged platinotype by means of the sheet glass dodge, until the edges of the houses are so vague that an eminent critic suspects he is going to faint, no slating, no abuse will meet the case.

The mention of Mr. Cadby brings me to my second point. Mr. Cadby works in an impressionistic manner, and he justifies his methods by the use of a form of telephoto lens, so that when one gets back from his pictures the perspective is admirable. But when one comes across a photograph executed in a perspective that has the station point close to the picture plane, and then fuzzied until one has to get miles away before one can make anything of it, one cannot help questioning the artistic training of the photographer, and the artistic judgment of the hanging committee. The impressionist artist selects a station point that is a long distance from his picture plane, because he knows that his picture must be viewed from afar in order to be appreciated; whereas, on the other hand, those of the early Italian masters who worked with a station point close to their picture plane, depicted their subjects clearly and plainly so as to court a close inspection. But the impressionistic photographer usually works with a lens that gives a perspective after the manner of the early Italian school, and, lacking sufficient artistic discernment to keep his definition clear, converts his picture into a quasi-impressionistic smudge.

It is difficult to understand why a clear definition is despised, and there is no doubt that it is despised, or at least avoided, by many of the English school. The soft clearness that made the old steel engraving a thing of joy, and the velvet richness that endowed the mezzotint with a matchless beauty, can both be obtained by pure photography; and I maintain that unless a lens be used having a far greater focal length than the conventional photographic lens, a soft clear definition is more in accordance with the canons of art than so-called impressionistic rendering. Of course, I know the objection about overelaboration of detail, but it is wonderful how much simplicity can be obtained by a judicious selection of the subject, and point of view, and the employment of a lens that is less bitingly sharp than the modern anastigmat; in addition, much may be done, if necessary, in the proper control of printing. As an example of what can be done by pure photography, I call attention to Mlle. Laguade's "Les Crabes" * and M. Ecalle's "Tangiers," in both of which perfect simplicity has been attained by the selection of the subject and point of view alone, and both of which are works of art of the purest character. And I go further and say that if the artists had attempted to simplify either tone or detail more than they have done by selection, they would have been guilty of a crime.

Mrs. W. W. Pearce, Waukegan, Ill.

---

* "Les Crabes" was reproduced in *La Revue de Photographie,* January, 1903, and "Tangiers" in *Photograms of the Year,* 1902.

A glance through the pages of *La Revue de Photographie* will show that the French appreciate the merit of a soft, clear rendering, and many of the little gems in *La Revue* are worthy of the masters of steel and mezzotint.

When a foreigner wishes to record an impression, or simplify tone and detail, he instinctively seems to take to gum, but he never strikes the note of vagueness. If he be French, he will probably strike his note of strength by the judicious use of the brush on the high lights; if he be German or Austrian, he will build up his tones by successive printings until he builds up that masterly strength and vigor for which these schools are noticeable. But when I see a picture that is remarkable for its vagueness, I know that I shall find an English, or possibly an American, name at the foot.

Please understand that I am making no wholesale assertion against the great school of English pictorial photographers. Craig Annan, Horsley Hinton, Frederick Hollyer, Frederick Evans, Charles Job, W. H. Cadby and many others are artists to their fingers' ends. But I do assert that vagueness is tolerated, even within the best English photographic exhibitions, a vagueness which graduates from a mere suspicion of vagueness, to a vagueness that is far more vague than anything that is in heaven, or earth, or under the earth; a vagueness that has found no place in engraving, etching, mezzotint, crayon, painting, or any of the older and more recognized forms of art.

Moreover, this spirit of decadence is spreading. Men who were once noticeable for their power and verity seem to find it necessary to "simplify tone and detail" until their pictures are robbed of life and strength; and those who newly enter on the practice of pictorial photography too often embrace the cult of vagueness with the fervor of religious mysticism.

If this article inspires a more powerful pen than mine to take up the subject, I shall not have written in vain, for let the spirit of vagueness once get a firm hold of pictorial photography, and good-bye to our national photographic art. Decadence is as insidious as smallpox, as incurable as the morphia habit, and as deadly as the plague.—*The Amateur Photographer.*

A. J. Anderson.

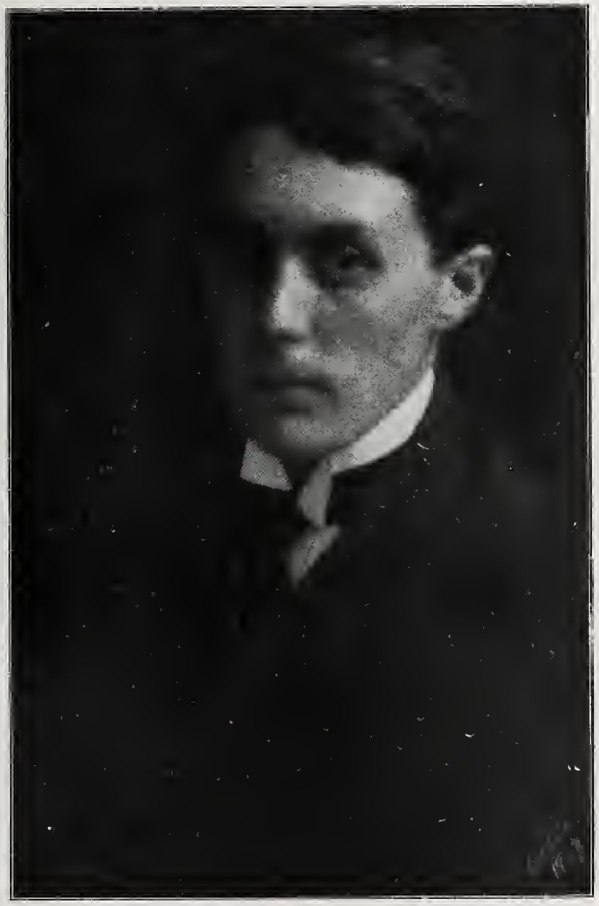
PORTRAIT COMPETITION No. 2.

Five more portraits were submitted in this competition than in the first, and thus far things are satisfactory, although they would be much more so if every professional reader would make it a rule to take part every month. If they only realized how much good it would do them, not one of them would miss a single chance. This has been abundantly proved in our other competitions where amateurs have come in for a flyer, found themselves rated away down, then got hot enough to come against the game at every chance, and then wind up by being somebody in the photographic art world. A few hours before I wrote this, one amateur assured me he finds it harder to win a prize in The Photo-Beacon Contest than to get hung in the average salon. If amateurs find it pays them to keep eternally at it, just for fun, then the presumption is that professionals would gain much more, for with them making portraits is a serious business, a living, in fact, is involved.

When I criticize portraits on the walls at conventions I am frequently at a loss what to say about most of them, and I frankly tell the reason. When a photographer has put no thought into a portrait it is utterly impossible for the kindest of critics to find anything there. There are principles of composition, lighting and tone recognized in the art world, but professional photographers, as a whole, are absolutely ignorant of them. The result is that looking through a lot of professional portraits is a most monotonous proposition, because of the similarity of the work — all poor at that. There is no conscious effort for anything definite, one pose is like the next one, values are never dreamed of, while the sitters are without individuality. The only way to change all this is for the men behind the camera to get down to serious business and do a little studying.

Last month's first-prize winner is again first this month. As a result of a flashlight accident he has been unable to work for some weeks, so his choice of material is limited, due to the operation of the sixty-day rule. The print he submits is a very hard one to reproduce, since it is a platinum print toned sepia, a very unfortunate color for the engraver, and I am afraid that the delicate tone values in which much of the beauty of the print lies will be rendered black, flat and dead.

As before, I would draw the reader's attention to the fact that the photographer is trying to suggest the character of the individual, not merely make a map of his features. In the first place I would point out that here we have a different type of man from the one reproduced last month. Both are men of brains, but this one is more intellectual than animal; one fonder of pictures and such esthetic pleasures than of good feeding and rough and tumble sports. I am only sorry that the hands are not shown so as to give a full key to his temperament. I have a decided objection always to a portrait where the eyes are dulled by shadow lying over them, as so much of expression lies there.



FIRST PRIZE.

The second prize falls to the third-prize winner of last month. As before, he sends in a standard sized sheet of paper, and I want to tell him I want him to do his own trimming, for the boundary lines are just as much a part of the composition as any other line, and figuring out their location will do him good.

In this print he is more ambitious than a month ago. It looks to me as if he had really a definite effect he was trying to get, a suggestion of light airiness. He succeeds very well with the bust of the figure, but the hair silhouettes far too sharply against the background. In fact, he is still very deficient in the feeling for tone. His lines are ambitious, but not good. All through one can see an effort to get free-flowing curves, but I can not find one really successful one. Take the one on the back of the neck, for instance, which starts a little flat under the hair, then takes a beautiful form for very short distance, and suddenly flattens out along the shoulder into something rather indefinite. Some parts of the outline of the hair are very pleasing, but the finish behind the neck is a sudden square bunch. The view of the face is one that I do not like. Midway between the ordinary three-quarter view of the face and a perfect profile there is really no stopping place for a good portrait, because one rarely gets a good shape for the mouth, upper lip and chin. In a profile all that one wants is to see the further eyelashes just showing beyond the upper part of the nose. This is a very mechanical rule, of course, but it will serve as a guide to the novice.

The third-prize picture is like a dozen others that were submitted in this, that the arrangement is practically a symmetrical one. Let the reader outline it and notice how every line on one side has a counterpart on the other. Now this photographer is a good workman, he certainly makes a fine negative, a good print, and has evidently a good eye for light and shade. There is latent in him, in my opinion, a great deal of pictorial ability; all he wants is a good shaking up to start him on a new path, and this is true of many hundreds of photographers with whom I am acquainted.

F. DUNDAS TODD.

RULES.

1. Only one print to be submitted in any one month, and this must be from a negative made in the ordinary course of business within sixty days of the date it was mailed.

2. The pictures will be judged on the first day of each month, and all prints received prior to that date will be included.

3. Requests for private criticism, accompanied by fee of $1, may be sent along with the print and will be answered after the judging is over.

4. Mark outside of package with the words "Portrait Competition."

5. Prints are not returnable.

UNIVERSAL EXPOSITION, ST. LOUIS.

DEPARTMENT OF LIBERAL ARTS.

ST. LOUIS, U. S. A., Jan 15, 1904.

The Editor, PHOTO-BEACON, *Chicago:*

DEAR SIR,— Under date of July 29, 1903, invitations were extended by this department to seven photographic societies to name one member each of a proposed Committee of Review and Selection. The duties contemplated for this committee were to examine and grade the photographs offered for exhibition.

Inasmuch as the majority of the societies have failed to respond to the invitation extended to them, it becomes necessary to change the program, and new regulations have been formulated, a copy of which is enclosed herewith.

I will be pleased to have you give publicity to these regulations in the interests of the photographic fraternity.

J. A. OCKERSON,
Chief, Department of Liberal Arts.

ROSES, cannas and dahlias are beautiful flowers that can be grown by any one, as they need practically no attention. Then they make beautiful subjects for photographing right at one's own door. In our advertising pages The Home Bazaar Company makes a very tempting offer whereby you can get a fine selection of these, the very latest kinds, at practically no expense. Investigate, as it will be to your advantage.

SOME IMPRESSIONS OF AMERICAN PHOTOGRAPHIC METHODS.

(A paper read before the Edinburgh Photographic Society.)

In speaking of American methods in photography, I must begin with a little explanation. The United States is a very big place, and although I covered about six thousand miles, that means very little of the United States. Then, again, things change so rapidly there, that what may have been the universal custom a year ago might not be known now; so you will understand I am only going to tell you of what I saw while in America; and I must add I know very little of British methods in Photography, having only had experience of one situation in this country, and any comparisons unfavorable to photography this side of the water are against my own work rather. If I have only known one situation here, the United States made up for it; but there, within limits, it is a recommendation to have knocked around. "The rolling stone no moss" doesn't hold good in the West at least. In the first five months in Chicago I was in four situations. My first was a carbon printer. It took me some time to recognize the difference between working in the two countries. It seemed the same, only more work, longer hours, and no Saturday afternoon. The operator was a really smart man, if he had not read a great deal about carbon printing, "always the greatest authority," kept me going making up formulæ for my work, which didn't always work. I got back at him one day. At this period I was intensely British, and always in mentioning a size gave the biggest size

SECOND PRIZE.

first — 5 by 4, and not as they did, 4 by 5. The operator chaffed me about this one day. "Well," I said, "we do things very quickly at home, and if you give a man smallest dimension first, he would have the stuff cut too small." "I guess that's pretty good, Young," he replied with a grin.

The carbons are all single transfer on celluloid. The prints had just to be perfect. It was here that I first saw the notice, "Call for your proofs the day after to-morrow." The Yankees are hustlers, but I thought they must have a night shift to have proofs finished like that; the proofs, however, turned out to be untouched and untoned silver prints, generally printed on what they called "seconds," a cheaper grade of paper. Occasionally the operator, in looking over the negatives before sending them up to the printing-room, would pick out the best negative of a sitter and put a little touching on it, but of the crudest description; the proofs were printed lightly, and looked wonderfully well, and then the saving in retouching was immense, as only negatives for which there were actual orders were retouched. An American photographer never forgets that it is the prints he gives his customers. Everything is done to make his negative perfect. Nothing is left to be done on the print; so you find in a place employing three retouchers, one girl does the spotting and sending out of the prints, and other things besides.

The scraper is used to a great extent. My first effort with it was to set a boy's eye straight. It was a full-length cabinet figure, perfect but for the boy having moved his eyes. I got them all right, but fell on the next negative I tackled. It was very strong in color, and wherever I scraped it turned blue, the color seems to be on the surface. This didn't show till the negative was printing, and then the scraping appeared in black spots. But, to get to American methods, it seemed to me that everything was done to make the negative as near perfection as the proprietor of the business knew, and then it was varnished. A great deal of the retouching is piecework, and a really smart retoucher could make, working hard, from $20 to $25 a week, provided he got the work. I think American retouching better on the average than what I have seen here. A more open style of touch is practiced. Of course, you meet with a great deal of overdone work. I remember they used to say of one man in Chicago that he kept one neck and bust with which he supplied his lady sitters who sat in evening dress. There certainly was a strong family resemblance between the necks of all ladies photographed by him; but, taking American portraits of ladies all through, most of them seem to be in evening dress. One man I was with described it as "neglitay."

Photographers keep a thing they call a "drape," and the draping in the resulting photograph is often quite classical. At times the display of neck and shoulder is immense.

All the time I was in America, I never saw a double transfer carbon. I did one myself one day just as a novelty. As already mentioned, all prints were single transfer. One man for whom I worked made negatives for carbon with a mirror. His work for many years had been entirely carbon. Latterly he took up platinum. I may say here that this man knew more of photography than any man I came across in the United States. He was an Englishman, very artistic, and with a thorough knowledge of his business right through every detail. His people, I believe, were photographers in England. I put in a month with him, and then had to quit, business was so quiet, but in that month I learned quite a lot. All his platinum paper and sensitized tissues were kept in an ice chest. The negatives were developed with a non-staining developer and so were easily judged in printing. Each one was built up to a standard density, with sheets of ground celluloid in the printing-frame, and when filled in were placed on a framework on wheels and run out to print. All the printer had to do then was to watch the one test frame and run them in again when it was deep enough. The prints were cabinet or C. D. V., and one size of celluloid held one cabinet or two C. D. V.'s.

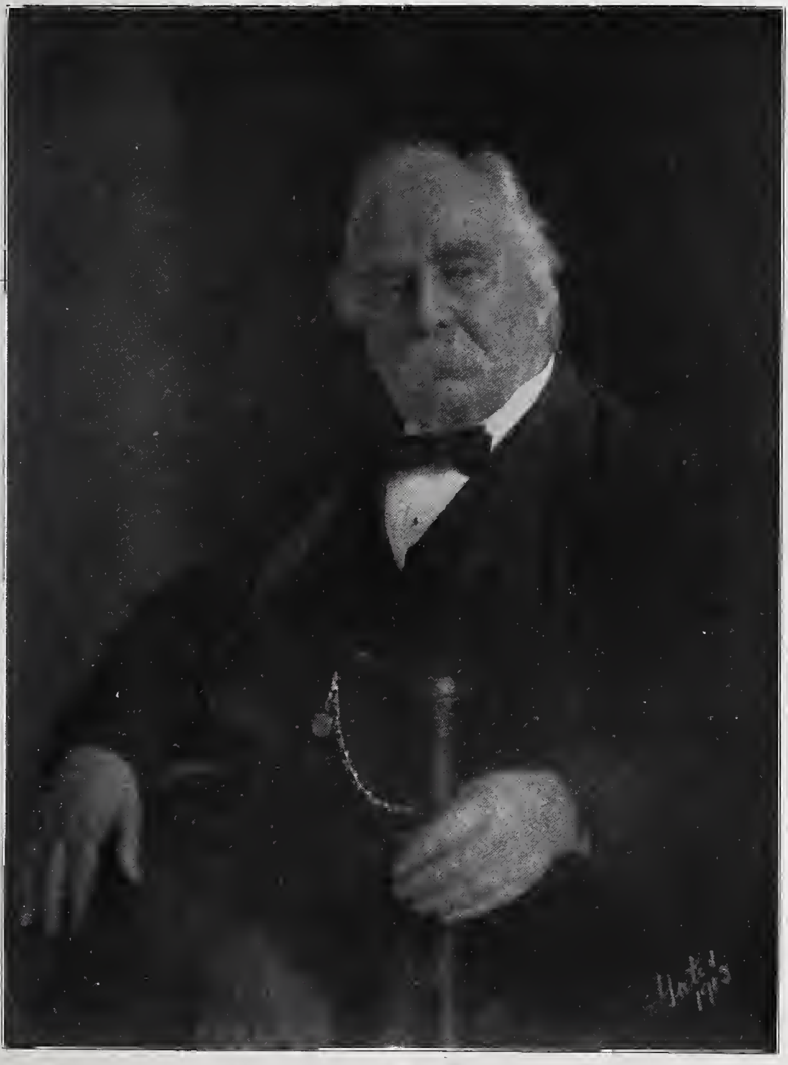
By developing in a series of grooved tanks, it was possible to get through a very big batch of prints in a comparatively short time. I did not find any good class place mounting their platinums solid; they were merely touched at the corners or round the edge, and the paper mostly used was B. B. grade and some C. C. The prints were always dried flat between blotters, and in the dry slight mounting none of the velvety quality was lost. The climate is a great help in printing; even in Chicago, which they call damp, I have seen a man cut up paper for a day's printing and keep it in a loose-fitting cardboard box. I can't imagine anybody doing that here and producing a decent print from it. The light, too, in the winter is so much better, and it seemed to me that I could get a much better print from a thin negative than I can here.

THIRD PRIZE.

The most popular printing paper was a matte collodion, toned first in gold and then in platinum. It is a very fine paper without a doubt, and giving beautifully rich prints if carefully toned. For the double toning it is printed till it looks the right depth by strong transmitted light. I hadn't worked this paper at all, so when I got a situation in Tennessee as printer I had to find out all about it. I went up to the Aristotype Company's office in Chicago and explained my position. The manager treated me with great courtesy, and at once introduced me to one of their demonstrators, who, he said, would give me any information I required. The demonstrator, I found was a very nice fellow. "Well," he said, "I guess the best thing I can do for you is to print and tone some paper; and as I have some paper here that a man has complained of, when can you meet me, and we'll go to some gallery and have a try at it?" We arranged for the afternoon, and went up to a place that ran about five studios. Our friend was evidently well known, as we went right through to the printing-room without challenge. On Mr. H. (the demonstrator) explaining what he wanted, the printer told him to help himself to a large pile of negatives. He filled out about thirty frames, and while watching them Mr. H. asked if they were doing much. "Oh! 1,500 prints in the last two days." Next question was, "Where's George?" "Down toning — been toning since yesterday afternoon." I asked how many printers they had, and found there were three. All the printing was done in the sun behind ground glass. They didn't need any artificial heat. A dripping wet negative was brought up, and an electric fan turned on; it was dry in ten minutes. I thought it was real handy, but too hot for comfort — more like stoking. Later on I had the same conditions to work under. The number of prints printed struck me as being a lot; but in mentioning it to a man I met in Tennessee, he said, "That ain't much of a picture mill," and gave some figures that were away up. Of course I didn't see the place he mentioned.

But to get back to our demonstration. On leaving, Mr. H. explained that whenever he wanted to test paper, the gallery which we had just left was one of two or three where he could always get the use of negatives. When we got back to the office I saw one of the quickest and finest tonings I have seen. Every action was explained — the theory of toning and the effect the tone would have in the gold bath upon the tone of the platinum bath; where it was necessary to wash well, and why. That was what impressed me. He didn't say, Do this, but told me why I should do it. The paper being quite satisfactory, Mr. H. said he would go along to the man who had sent it back and have a look through his place and find out the trouble. I think the American photographers owe the Aristo Company a debt of gratitude. The company has made it their business to see that everybody buying their goods would get the best possible results with them, and I think the high quality of the average print in America is in a great measure due to the system of demonstration. When I was in a place in Iowa, we had some trouble with a batch of paper. I forget what it was now; however, we wrote into Chicago complaining, and sending some of the paper back. Next day we got a wire in reply saying, "Have sent on nearest demonstrator and fresh paper." The demonstrator came in next day after. He had covered over three hundred miles, traveling all night. By this time we had got the new paper working right. It seemed almost funny the way he strolled in in the morning. When we showed him the good prints, he said: "I guess those are all right; must have been a bit old, that other paper. Where did you buy it?" and getting a reply, added, "There is a train back in a quarter of an hour; I guess I can catch it," and off he went back three hundred miles to take up his round again. But if we had not had things right, he'd have stayed there till they were right.

A great deal more work is expected from a man over there. In one place I was in there was just the proprietor and myself and a girl in the reception-room. We didn't work on Sunday, but we turned out from five hundred to seven hundred prints a week, aristo and platinotype. I did the retouching, most of the developing and the platinum printing, helped with the aristo printing, some of the sitters, the toning and mounting. The retouching ranged from cabinet full length to 10 by 8 heads. With a good light, soft pencil, and sitting well back from the negative, it was possible to get through about eighteen mixed negatives between 8 A.M. and 6 P.M., thirty minutes for dinner. From Monday till Thursday forenoon there was nothing but retouching; the developing then was done before breakfast. The boss started printing Thursday morning. I chipped in later. We toned Friday afternoon and mounted at night, finishing up any time between 10 P.M. and 1 A.M., generally about midnight. The people called for their prints on Saturday. We kept open an hour or two in the evening. The rule there in paying was a dollar at time of sitting and the balance when you got the prints. I couldn't retouch at that rate now; it needs constant practice, and the most favorable conditions, to come up to that turnout.



S. L. Gates, Chicago.

CHICAGO SALON.

In upper Michigan, where I was for over a year, we hadn't anything like the rush, although the same system was gone through. About five hundred prints was our biggest output in one week; but we kept open on Sunday — at first all day: later, we, the four photographers in the town, came to an agreement to shut Sunday forenoon. This three of us kept till I left. The man who did not keep it was the only American photographer of the four. I had the pleasure of going round one Sunday forenoon and giving him a piece of my mind; but he didn't count much; he cut prices, and did poor work. He had the laugh at us just about Christmas. My partner had bought some blocks for advertising purposes, one a crude sketch representing an enlarged framed photograph, a couple of figures and a dog barking and jumping up to the picture. There were some words below explaining that the dog was barking with delight at recognizing his master's portrait, then followed our advertisement for enlarging for Christmas. Well, next week our American friend had in *his* advertisement, beginning as follows: "When you get an enlargement done at my place, your dog will not rudely bark at it, but will wag his tail with genuine pleasure," and so on.

This being a mining town, the foreign element predominated. There was every nation in Europe and a good few from Asia. I think I was the only Scotsman except a doctor, and he was Canadian — that sounds a bit Irish, I'm afraid. Italians were in the majority, and I never had one sit without bargaining over the price; and no matter how little English he had, he could always say, "Too moosh, too moosh." I found them honest, with two exceptions, and they had been a long time in America.

In most galleries they had a straight price for a dozen cabinets of one position, and this was increased by mounting on special mounts. We made matte cabinets for $4, and glossy for $3 (glossy was chlorid paper), 50 cents extra for two positions. The matte prints got as high as $6 by mounting on different mounts. First thing when I got to the gallery on Sunday at 1 o'clock there would be what looked like two families, and perhaps one or two odd people or single lots. They all simply tumbled in behind me, and then the rush began. When new to the game I tried to accommodate every one and hurried to attend to all, but soon found it was best to ignore everything but the first man who spoke; they were in no hurry, it was like going to the theater for them. First question was, "What you charge for take our pictch?" You went over the prices and mounts, although the man knew them, then what seemed like a violent quarrel took place in Italian, and just as you expected bloodshed the spokesman would turn round and say quietly, "Too moosh." I never took any notice of this, and he didn't seem to expect it, because he would immediately ask how moosh for seex like this, seex like that, and seex like that. You gave him a price, then he would ask, "What you take for"— and would mention so many of the two families, so many of himself alone, and some of the families separate — each arrangement would be for different mounts, so that if you weren't careful you'd get caught in some of your former quotations, and no explanations would avail. When the price was settled the name and dollar had to be got. The dollar was the easier; if the name was not Italian it was Finnish or Swede or Polish; some American names were not much better. My biggest Sunday's work was seventeen sittings, and each one had two or three positions, and fully half of them had to be bargained with. Considering it was two and a half hours' work single-handed, it was hustling. I don't want to make out that this was all artistic photography, because a large number of the sitters insisted on having completely in view two feet, two hands and five fingers on each hand, and the French people thought a shadow was a black mark. But it was good, clean work, results technically above the average place of the same class here. Now and again we had a good subject, and we didn't let them pass.

Everybody in America gets photographed frequently, once a year, and many much oftener. A surprising thing is the way in which a man who has really no artistic sense picks up the knack of making almost artistic work; they seem to be able to get the thing down to a few rules and apply them. I don't think enough can be said in praise of their conventions. Almost every State has one. I, unfortunately, was only able to attend one, and it was not of outstanding importance. It was when I was in Michigan, and the three photographers already mentioned planned to go together, other two from a neighboring town joining us. Unfortunately I have lost the program, but it was all through a business meeting of professional photographers, and was well worth the two hundred miles' travel to attend. There was an exhibition and some awards. One, I remember, was a bronze statuette awarded for a certain class of work, another award went to the man whose work showed the greatest improvement since the meeting of the previous year. We had a criticism of many of the works by the principal of a big art school. Many of the points criticised were obvious, but here and there one got a hint, and every line that was bad the reason of its badness was given and where it could have been improved. All work criticized was by permission of the exhibitor. A feature, or rather characteristic of American photographers, and in fact business men in general, that impressed me was their readiness to talk of their business and eagerness to hear what you had to say. There seemed to be no fear in them of giving away their business; the idea seemed to be that in a conversation the smartest man got the most benefit, and I didn't find any man admit that he was the noodle, but he was always ready to admit that his work could be better, and eagerly on the lookout for any hint that would help him and a willingness to try any new idea. We had some very interesting lighting demonstrations in one of the principal studios in the town. The one I went to was a very clever show (if one can call it so). The studio was of the single slant form, very much like H. P. Robinson's studio of the future, except that the glass sloped in slightly. We were shown all forms of lighting and some very beautiful effects. As the majority of studios in the United States are of the single slant pattern, it was very useful to a large number of men there. Once or twice one of those present would ask the demonstrator to produce a certain form of lighting, which he did. Fortunately the subject was a man who would photograph in almost any light. I don't think I heard the word "art" mentioned, but most of the effects were artistic. I was describing this to a photographer friend of mine in town. He stopped me with the question, "Do you mean to say that there were photographers in the same town in at the

Carl Rau, La Crosse, Wis.
CHICAGO SALON.

demonstration?" "Yes, of course," I said; "it was a State convention." "I'd like to see a photographer do that here," was his reply. Among other things there was a talk on business methods for photographers, the usual demonstration of printing paper, a lecture on artistic lighting accompanied by sketches, and many other items that I have forgotten. In connection with the convention all the railroads and hotels gave special rates. We paid full single fare going, and on presenting our membership card going back got for one-third. I don't think we had any receptions or excursions. One night the dealers in town took one of the theaters for the members. I think that was the only entertainment. That performance was a funny thing for me. I had been to the oculist's in the forenoon, and he had dropped some atropin into my eyes; the consequence was I couldn't get the stage in focus, and for every actor on the stage I saw three. Although the town is famous for its beer, I can assure you that the atropin was entirely to blame for the optical effect.

The American photographer strikes me, when you meet him at a convention, as an enthusiastic, jolly, good fellow, friendly, and ready to do a good turn if in his power. I can speak of kindness and consideration from many of them, my first few months out being anything but a bed of roses. Any place that I called on in looking for work, I received every courtesy — in fact, some of them were too polite and raised hopes for which there were no grounds. I don't think, as a rule, the American photographer has such an all-round knowledge of his business as a man here. That may be because I had gone through a regular apprenticeship, and was accustomed to almost every kind of work. So to get into a place using at most two kinds of printing paper bought in cut sizes, it seemed a little simple, bue then I don't know a man who can make more of a little knowledge than your average American. You have only to note the number of men who change their profession two or three times when comparatively well on in years, and not changing because of failure, but because they think they can do even better in another line. He is intensely practical, and apt to specialize in one or two lines. Anything that has no direct connection with what he is actually doing is ignored. His carbon printing is all single transfer, because double transfer would not be so practical in the handling of big quantities and working on celluloid and rough surfaces. Except in one place, all carbon portaits that I saw turned out were reversed, and in that excepted place they had reversed negatives that were no good (from my point of view) for anything else. It is perhaps one or two individual details of that sort, and maybe methods of working, that did not agree with my notions that gave me this impression, because I saw much good work, both artistically and technically, from all parts of the country. Among a certain set their portraits must always be "snappy" in character. I must say, personally, I like a clean, bright print, but those "snappy" portraits were a bit too much, nothing restful, very useful as detective portraits for the police, but they will soon, if they are not now, be very much the exception. One thing that is good in a way for our American friend is the constant demand for something new; he doesn't get a chance to get fixed much on one style of work, and he can't live on a reputation without doing a good deal to keep it up.

This brings me to another point. It has been said that American photographs are not permanent. I was speaking to a printer in Chicago, and I said, "your prints can't be permanent with the washing you give them." "What does that matter?" he said, "the folks who get them stick them in an album and forget all about them in a week, and six months later they come back and re-sit." Now I don't think you can blame the photographer for this sentiment. He is not in the business for his health, as they say, and if people don't want lasting prints, why should he bother? I have seen places where the negatives even were not kept after a few months. But that is changing rapidly; there is a big wave of artistic feeling sweeping the country, and photographers are getting the full benefit of it, and with the production of more artistic results grows the desire to preserve them, and so more consideration as to the permanence of the printing process. Platinum and carbon were coming more and more into use at the time of my visit. And now I repeat that the few impressions I have tried to convey to you were gathered while earning my living in America; they are what I have seen and experienced in a varied climate. I have photographed lumber jacks in the woods when it was ten and twenty degrees below zero, and have re-touched and printed in a melting condition with the mercury at 102° in the shade. Some of you present may take a trip to America, and from any point of view I don't think it would be without profit, but you must not go with my impressions, even if you agree with them just now, as everything that struck me might be absolutely different, in support of which I would like to quote a few lines from a book on America, "The Land of Contrasts," a Briton's view of his American kin, by James Fullerton Muirhead, author of the United States Baedeker. The Americans themselves admit the absolute fairness of this work. In the first paragraph of the author's note he says:

"The book was almost wholly written in what leisure I could find for it in 1895 and 1896. The footnotes added on my third visit to the country (1898) while I was seeing the chapters through the press, have at least this significance, that they show how rapidly things change in the Land of Contrasts."

And further on:

"It is important also to remember that the generalizations of this book apply in very few cases to the whole extent of the United States. I shall be quite contented if any one section of the country thinks that I cannot mean it in such and such assertion, provided it allows that the cap fits some other portion of the great community."

In fact, gentlemen, this idea is not only the key-note of Mr. Muirhead's excellent work, but of the experiences which I have, I hope fairly if feebly, endeavored to place before you, for it is a fact which permeates literature, language, and social customs in America, that the words, the habits, and the ideas which obtain to-day are abandoned to-morrow, and are absolutely obsolete next week. W. E. DRUMMOND YOUNG.

AMONG the various methods of dry mounting recently proposed, that of Roloff may be noticed (*Photographische Rundschau,* October 15, 1903, p. 257). Bleached shellac is dissolved in alcohol to the extent of 1 gram of the lac in 3 c. c. of alcohol. The back of the print is varnished with the preparation, and when dry the print is placed in position on the mount and covered with a piece of clean cloth. Adhesion is now established by ironing with a moderately warm flatiron, so as to soften the shellac.

S. D. Lisle, Chicago.

CHICAGO SALON.

SOME NOTIONS ABOUT FOG.

Fog is the figurative and very applicable term used to describe the appearance of a negative whose detail is so obscured in haze as to look as if seen through the mist on a foggy day. Frequently the detail is veiled only enough to partly take away the brilliancy of a perfect negative, or it may be so dense as to bury the detail almost entirely. Again, the fog oftentimes does not appear all over the negative, but in spots. This is known as " local fog." As a large percentage of the amateurs' negatives are slightly fogged and the printing quality greatly damaged, care should be taken to find the cause of the trouble and guard against it.

Fog very naturally divides itself into two kinds: " light fog " and " chemical fog."

Light fog is the result of careless manipulation and a lack of appreciation for the extreme sensitiveness of a plate or film. It may be either " general " or " local." Films are more likely to have local fog than general, while plates may have either.

Great care must be exercised in the use of plateholders, and no precaution can be too great. Most of the standard holders are well made and some are nearly flawless, yet it is an unnecessary and dangerous habit to allow strong and direct light to fall on loaded holders for any length of time. The holders should be carried in the camera carrying-case or in a stout black twill bag, and should be replaced at once after exposure in the camera. The careful worker will not think this safeguard unworthy of his consideration.

Careless manipulation of the slides of a plateholder often causes fog, and although it seems so simple a matter to insert a slide, yet many do it carelessly, not knowing that in so trivial a thing lies the source of all their trouble. Never enter one corner of the slide first, as it pushes aside the protecting flap its whole length and light enters where the other corner does not fill the opening. The slide should be pushed straight in with a slow, even motion. A quick movement of the slides, either in removing or replacing, when they are made of hard rubber or vulcanite, may cause enough electrical action to fog a rapid plate. The electrified rubber will also attract dust, which easily drops on the plate and causes pinholes and many other troubles. Thanks to some of our enterprising manufacturers, hard-rubber slides are being superseded to a large extent by slides made of press-board, experience having demonstrated their superiority. Care should also be taken to always push the slide into the holder as far as it will go, both after filling the holders or after exposure. Never try to take the holder from the camera until the catch has been turned over the top of the slide.

It is well to frequently examine the holders for any defects that constant usage will produce. A fall may have started the dovetailed joints, the slide may not fit closely, the corners of the slide may have worn away, the partition of a double holder may contain holes or cracks, the slide may have chipped a small splinter of wood from the protecting flap, or the spring on this flap may not work properly; any of these defects may let in light and fog a plate.

Defects may also be found at times in the bellows or lens mount, and when they exist are a constant source of trouble until remedied. Such defects can generally be detected by looking into the back of the camera with a focusing cloth thrown over the head. Close the shutter and as the eyes become accustomed to the darkness, any hole in the bellows or defect in the shutter may be seen. A hole in the bellows is easily patched by glueing a piece of thin leather over it, while a defective shutter may be repaired for a few cents at nearly any supply store.

Special attention must be given to the darkroom appointments, for therein lies the cause of many troubles. Great care must be taken to prevent the entrance of any white light through cracks or keyholes, as the slightest ray will harm a rapid plate. Go into the darkroom and after closing the door, wait until the eyes become accustomed to the darkness. In a few minutes a careful examination about the room will show any places where light enters. These should be closed at once. A darkroom can not be too "dark."

The developing light should also be carefully examined to see that no white light escapes and also that the light emitted for developing is "safe." By "safe" I mean that a plate exposed for five minutes in the same place where developing is done should show no trace of fog or density when developed. In my own work I expose a plate as little as possible to any light whatever until development is about half finished, when it is much less sensitive and I feel free

Henry Hall, New York.

CHICAGO SALON.

to examine it quite carefully near my lamp. The extreme sensitiveness of dry plates is well known, but it is always advisable to caution workers to keep exposed plates from even a colored light as much as possible. No light sufficient in volume to properly examine a plate is absolutely safe in a prolonged exposure. Ruby or pure red light has little or no action upon a plate and is the best light to use, but red glass nearly always allows a certain amount of yellow and green light to pass, so it is advisable to use with it a deep orange glass, or better yet, one or two sheets of postoffice paper. This diffuses a light which is easier on the eyes than ruby glass alone, and by its use the quality of the negative may be more easily determined.

The light thus secured should be tested as follows:

Place a rapid plate in a holder, and drawing the slide so as to expose half of it, expose it for five minutes in the spot where the tray rests during development. Then develop for about four minutes and fix as usual. If there is any difference between the exposed and unexposed parts of the plate, more sheets of postoffice paper should be added until a plate will stand the test. Postoffice paper will fade in time, and should be replaced occasionally.

Overexposure in the camera produces a kind of light fog which may be uniform all over the negative or appear as local fog in the form of halation around the window of an interior view. Plates which have been overexposed or accidentally fogged may be restored and used as slow plates for time pictures. A solution for restoring plates is as follows:

Chromic acid	15 grains
Potassium bromid	30 grains
Water	5 ounces

Each plate should be allowed to remain fifteen minutes in this solution, and then washed and dried. All this must, of course, be done under red light in a darkroom. Plates so treated will require double exposure when used.

Slight halation and other kinds of local fog can often be removed by rubbing with a piece of chamois dipped in alcohol. A clean place should be used as fast as the chamois becomes blackened. Where the fog is too dense for this treatment, the following solution will be found of use:

NO. 1.

Saturated solution red prussiate of potash.

NO. 2.

Hypo	½ ounce
Water	4 ounces

Take one dram of No. 1 and two drams of No. 2. Apply this quickly and evenly to the fogged spot with a small brush, and rinse at once. Repeat until the reduction is sufficient.

We now come to chemical fog, which has several causes due to the nature, condition and use of the developer.

Perhaps the most frequent cause is the use of warm developer. All developers work best at a temperature of 65° to 70° F., and the darkroom should be kept as near this temperature as possible. Solutions kept in the room will of course take the same temperature as the room itself. If the temperature can not be controlled, the developer should be used warmer or more concentrated when the room is cold, and colder and more diluted when the room is hot. The temperature of the darkroom is of much more importance in negative-making than the average amateur realizes, and many faults are due to neglect of this fact. No darkroom equipment is complete without a thermometer.

Prolonged development in cases of underexposure or to produce density also causes fog. Density should be secured by increasing the amount of reducer, but the addition of alkali will not force out details in a *greatly* underexposed plate, however long development may be continued. It only veils the image in fog. This treatment is suitable only for *very slight* underexposures.

The nature and amount of alkali in the developer is also an important factor. It is not advisable to use the caustic alkalies except when especially recommended for a particular brand of plates, as they have a peculiar tendency to cause fog. This is very noticeable if the plates are old. The amount of alkali in a developer should vary according to the temperature of the darkroom and the speed and brand of plates used. A smaller amount of alkali should be used when the darkroom is hot and a larger amount when it is cold. It will, however, be found far better to keep the temperature of the room the same at all seasons when this is possible. Again, slow plates require more alkali than rapid plates. Care and study must be used in making these required changes in the developer. Enough alkali should be compounded with the developer to bring it to a desirable and controllable speed. This is its true function. If more is added the solution will fog the plate, while if the developer is lacking in alkali it prolongs development, increases contrasts and fails to bring out detail.

Irving K. Park, Athens, Pa.

CHICAGO SALON.

It may be well in closing to say that only enough developer should be used to cover a plate as it lies in the tray. A small quantity will produce a more vigorous negative. Too much solution may cause uneven density or air-bells unless very carefully handled. Frequently this same fault produces an almost entire reduction of the silver in the plate emulsion, resulting in an image of great density. In such cases the following clearing solution will be found of advantage:

Water	10 ounces
Ferrous sulphate	1½ ounces
Alum	½ ounce
Sulphuric acid	20 minims

PHIL M. RILEY.

A HOME-MADE PRINTING PAPER.

The paper which is described below is not entirely novel, as I have written of it some years ago in *Il Progresso Fotografico* and elsewhere. I have lately, however, been giving more attention to it with the idea of finding out the best conditions under which it can be prepared and used, and how the pleasant tones can be obtained in the most economical manner, and the outcome of these experiments is set forth below.

The sensitive substances employed in this paper are ferric chlorid and oxalic acid. The ferric chlorid is rapidly reduced to ferrous chlorid under the action of light by oxalic acid, which, with the excess of oxalic acid present, gives ferrous oxalate.

We then have ferrous oxalate on those parts of the paper which have been affected by light, and, as everyone knows, this is *par excellence* a reducing body. Its reducing power may be made use of forthwith by immersing the exposed paper in an ammoniacal solution of silver nitrates — the silver is immediately reduced.

Now a few words on the most convenient method of working. We first prepare the sensitizing solution by taking a hundred grains of crystallized ferric chlorid, fifty grains of oxalic acid, twenty-five grains of hard gelatin, to each ounce of distilled water.

The gelatin, after being allowed to soak in the water which contains the soluble salts, is warmed in a water bath very carefully to the lowest temperature which is sufficient to dissolve the gelatin. The solution is spread by means of a brush on a fairly good well-sized paper. The special qualities of paper made for photographic processes, which are very expensive, are not a necessity for this purpose.

An important point is to dry the paper as quickly as possible by heating it at a stove. In this way the penetration of the sensitizing solution can be prevented. Both the liquid prepared as above and the sensitized paper may be kept without damage for a considerable time, for, while the reaction between the ferric chlorid and the oxalic acid may be regarded as exothermic, the great tendency to oxidation of the ferrous salts is opposed to the reduction.

The paper is very rapidly affected by light. Its sensitiveness is such that in bright sunshine with a negative of reasonable intensity a print is obtained in about three minutes. The progress of printing may be watched, the image appearing light upon the yellow background of the paper. A little practice will be wanted in order to make sure that printing is carried to the proper depth.

The paper ought to be developed soon after printing. This is effected by immersing it in a two per cent solution of silver nitrate, to which has been added sufficient strong ammonia just to cause the precipate which takes place when the ammonia is first added to be redissolved. In this liquid the image appears almost instantaneously, and after the print has been allowed to remain in it two or three minutes it is taken out and washed. The picture will be seen to be in a vigorous black on a deep yellow ground. This deep yellow is produced by iron oxid resulting from the action of the ammonia upon the sensitizing coating. After a short washing we may get rid of the iron oxid. This can be done very easily by means of a four or five per cent solution of oxalic acid. The unexposed portions become quite white. The print is then washed for at least ten minutes to get rid of the acid, and it only remains to fix it in a five or ten per cent solution of sodium hyposulphite.

The tint finally obtained, which is not very black, is to me a pleasant one. A little warmer tone can be obtained if we employ for fixing a ten per cent solution of sodium sulphite. I would point out that the only use of the fixing is to get rid of the minute traces of silver which have been absorbed and retained by the paper in consequence of its immersion in the silver nitrate solution. These traces, although very small, cannot be got rid of completely by mere washing in water.

Let us now see what treatment this

paper requires in order to obtain various colors, or, at our option, a finer black.

(1.) Instead of fixing in plain hyposulphite solution, let us add to the ten per cent hypo bath a saturated solution of lead acetate, until the white precipitate which first forms is on the point of redissolving. We shall obtain in this way darker tints than with the plain hypo.

Geo. H. Hazlitt, CHICAGO SALON. Chicago.

(2.) We may fix in the solution just described, but with the addition of ten minims of a one per cent solution of gold chlorid to each ounce of the liquid. In this way we shall obtain fine violet blacks.

(3.) After the oxalic acid treatment and a very careful washing the image may be toned in a solution containing one grain of gold chloride in each two ounces of water, to which has been added twenty grains of sodium bicarbonate. After toning we can fix in the plain hyposulphite bath or in the hyposulphite with lead acetate above described (No. 1). In this way, according to the time during which we leave the print in the gold solution, we can obtain anything from a warm tone up to a vigorous black with a violet shade, which for some subjects is very effective.

(4.) We can also tone the paper with platinum by adding a salt of platinum to the oxalic acid solution which is used to clear the print. Either platinous chlorid (potassium chloroplatinite), or platinic chlorid may be used. We add one grain of potassium chloroplatinite or of platinic chlorid to two ounces of the oxalic acid solution, and in this way quickly obtain very intense and pleasant blacks, which are still further improved if the print is fixed in the No. 2 bath. The chloroplatinite is preferable to the platinic chlorid, because it does not reduce the image so much.

I have endeavored to find out some means by which the action of watching the progress of the printing is made more easy. I have succeeded best by adding to the sensitizing solution a small quantity of Prussian blue (ferric ferricyanid) dissolved in a solution of oxalic acid. In this way we get the sensitive surface of a bluish tone, which is bleached by the light (which transforms the ferric ferricyanid into ferrous ferricyanid), which bleaching helps very much in watching the progress of printing.

The process is so economical and easy that it is worth trying both by amateurs and by professionals of an experimenting turn. It may be pointed out that the method can be applied also both to linen and to cotton.—*Photography.* PROF. RUDOLFO NAMIAS.

PHOTO-BEACON, *805 Security Bldg., Chicago, Illinois:*

DEAR SIRS,— Our 1904 catalogue is now in course of preparation and will be published on or about March 15.

We would thank you to announce in the columns of your next issue that our catalogue will be ready about March 15, and that we will be pleased to send it to any one interested in photography.

When we say that our new catalogue will be the most attractive piece of printed matter published by us, you may have some idea of the sort of catalogue the 1904 will be. Moreover, the catalogue will give detailed information concerning the various improvements which we will embody in the construction of our 1904 designs.

Yours very truly,
CENTURY CAMERA CO.

REPORT OF EXECUTIVE BOARD MEETING P. A. OF A.

SOUTHERN HOTEL,
ST. LOUIS, MO., January 11, 1904.

Upon the call of President C. R. Reeves, the Executive Board of the P. A. of A. met in executive session at above hotel, all members being present:

C. R. Reeves, president; Charles W. Hearn, first vice-president; C. J. Van Deventer, second vice-president; F. R. Barrows, treasurer; George G. Holloway, secretary.

The secretary reported as follows:

Received on 1902 account	$ 128.31
Received from floor space	1,715.00
Received from desk space	300.00
Received from advertising and entertainment fund	1,411.30
Received from sales account	6.00
Total receipts	$3,560.61

The treasurer reported:

Cash on hand January 1, 1903	$5,175.89
Received from membership and dues	2,659.00
Received from secretary	3,560.61
Refund Traffic Association	17.00
Total receipts January 1, 1903	$11,412.50
Disbursements, as per vouchers from Nos. 330 to 402, inclusive	5,341.76
Balance on hand January 11	$6,070.74

The president appointed C. W. Hearn and C. J. Van Deventer to audit the books of the secretary and treasurer, which were found correct and approved.

On motion it was decided that the next P. A. of A. convention be held in St. Louis from October 3 to October 8, inclusive.

The Executive Board were fortunate in securing the Forest Park University Hotel in which to hold the meetings of the P. A. of A. This hotel is within a stone's throw of one of the entrances to the World's Fair grounds and is capable of taking care of our members. This will be the grandest convention ever held in the history of the association, and sociability will be one of its main features. (More anon.)

On motion it was decided that the president appoint an honorary vice-president from each State, to coöperate with the Executive Board in their respective States.

On motion it was decided that this convention be known as the World's Fair Convention, P. A. of A.

On motion it was decided that, in accordance with a resolution passed in 1903, certificates of life membership be prepared and presented to all past presidents during one of the business sessions of the coming convention.

Lee H. Keller, Camden, N. J.

CHICAGO SALON.

The following committees were appointed by the president:

Badges and Buttons — F. R. Barrows, George G. Holloway.

Transportation — George G. Holloway, C. R. Reeves.

Hotels and Accommodations — C. J. Van Deventer, C. R. Reeves, F. R. Barrows.

Decoration and Hall — Charles W. Hearn, C. J. Van Deventer.

Association Review, The Official Journal — Charles W. Hearn, F. R. Barrows.

Entertainment — Entire Executive Board, C. R. Reeves, chairman.

Printing and Advertising — George G. Holloway, C. R. Reeves.

Committee on Information — George G. Holloway, chairman.

With every assurance to the photographers of America that the coming convention will be one long to be remembered, the Executive Board hereby seeks the hearty support of all progressive photographers in the land.

Respectfully submitted,
George G. Holloway,
Sec'y P. A. of A., Terre Haute, Ind.

PYRO A DEVELOPER DIFFICULT TO DISPLACE.

There would seem to be at the present time a determined effort in certain quarters to boom metol as the developer *par excellence* at the expense of our old friend pyro. This solicitude to lead those of us aright who have been so long misguided is extremely touching, but there are grave doubts of its availing to the extent these reformers desire.

Metol may possess all the desirable qualities its admirers claim for it, yet it is passing strange so many talented workers have been so long in finding it out. In fact, many who have been accustomed to metol, it has been asserted from time to time, have deserted it and gone back to their first love, pyro, declaring the latter good enough for them. Perhaps they did not know how to use it, but I can see no advantage in using a blue-black negative that allows so much printing energy to go to waste. Metol undoubtedly is of great value for short exposures, and for this reason commends itself to the snap-shot maker. Metol may be capable of searching out detail that pyro overlooks, but in these days of pictorial photography there does not seem to be much desire among advanced workers for such a consummation. As a rule there is no need to strive for detail; usually there is altogether too much and particularly in places where we would much prefer it would be absent.

The worker along photographic lines who knows the business can get all the detail necessary from pyro, and for those who object to the yellow stain, there are formulas whereby that is almost entirely eliminated. But why do away with this color, when it helps to make a good print. If metol is so very superior, as these special pleaders would have us believe, the Eastern people must be very short sighted and dense in thus overlooking the fact and favoring pyro, as they do to the exclusion of all other developing agents in the working of their developing machines. We must believe that these exceptionally able business people have deliberately chosen pyro because they found it the best for their purposes after due experiment. "There were great men before Agamemnon," and good negatives were not uncommon years before metol and similar reducers were even thought of.

Metol in conjunction with hydroquinone is responsible for much of the "soot and whitewash" stuff that has afflicted us the past few years. Those who make a business of developing for amateurs no doubt bless the day they were introduced, the combination commending itself because of the celerity in action of the former and density building qualities of the latter. Were I in the business, doubtless I would look at the matter as they do, but being but a humble amateur with no great desire to annihilate time, seeing no serious objection in comparatively slow working of pyro, and as for the staining of the fingers, that is easily overcome by the application of a citric acid crystal. Pyro will produce any sort of a negative, soft or hard, thin or dense, and of a color from black to deep yellow, the latter being neither necessary nor desirable. A properly compounded formula will produce a nicely balanced negative, crisp and clean, free from fog and of an olive yellow hue. Such a negative cannot fail to prove a good printer, and in a reasonably short time, quick enough at least to suit the average worker who is something more than a mere automaton.

It is almost impossible to look over our photographic publications without running up against some article advocating the claims of this, that or the other of the newer developers. Some of them savor suspiciously of the press agent. Each of the reducers is calculated to fill the long felt want. The article warranted to do the trick much better than it has ever been done before. Pyro, old-fashioned pyro, with all its shortcomings and limitations, so much dilated upon by these special pleaders, goes along on "the even tenor of its way," unlike its newer and bluer competitors, representing no special monopolistic interests, but advertised by its loving friends, whose only reward is the satisfaction derived from using it, which satisfaction is reward enough in the opinion of not a few, among whom is your humble servant.

James Thomson.

Rochester, New York.

A fire of serious consequence occurred in our factory during the evening of January 18, 1904, destroying all cameras completed and in course of construction and also involving the loss of a large quantity of other apparatus and supplies. The camera department is affected chiefly, and at present we are unable to anticipate the date when we will be prepared to fill orders. Work will be resumed with all possible despatch, and we deeply regret that our misfortune must inconvenience our friends for an indefinite period.

The optical departments are intact and in a few days we will be enabled to execute orders for lenses, microscopes, binoculars, etc., without delay.

We request the kind indulgence of our customers with orders unfilled, for repairs or other transactions uncompleted, and will endeavor to attend to such as promptly as circumstances will allow.

Yours sincerely,
Gundlach-Manhattan
Optical Company.

CONTROLLING GRADATION IN BROMIDE PRINTS AND LANTERN SLIDES.

Mr. J. Sterry in *Photography* says that when a negative is being used that gives too contrary effects on such papers as velox or lantern slides the prints can be made soft and full of detail by a preliminary soaking in a bath of potassium bichromate after exposure and before development. For small contrast the bath should be one part of bichromate in one thousand parts of water; for softer results the bath may be as strong as one in a hundred. The print is bathed for two minutes, then passed through a dish of water to take off the bichromate solution on the surface, then the developer is poured on until the desired result in the shadows is obtained. He recommends that the developer be made up with less of the developing agent than usual, say half to a quarter, keeping everything else the same, thus enabling the bichromate to act more effectively. The method can of course be utilized for bromide enlargements.

Recently I tried some intensifiers, but none gave me the density required. I then asked a chemist friend, who told me that the negative should be bleached, as usual, with mercuric chlorid, and then blackened. For blackening it, make up (1) a two per cent solution of pyrocatechin; (2) a twenty per cent solution of calcined potash. Then use five parts of 1, one part of 2 and fifty parts of water. This bath will give good density to very weak negatives, but must be used with caution, or else the negatives may, after all, need reducing. —*M., in The Photographic News.*

QUESTION BOX.

Please give me (a) formula for mounting prints in optical contact with glass; (b) how to work the ivory type process. Bert Healey.

Answer.—(a). This is a very beautiful method of mounting glossy prints. Here is how to set about the simple task. Soak two or three ounces of sheet gelatin in cold water until it absorbs no more, then dissolve in about eight ounces of boiling water; filter into a dish maintained by means of a water bath, at a temperature of not less than 100 degrees. Immerse your print in the gelatin solution; place it (picture side) in contact with a clean piece of glass; squeegee down, and when the gelatin has dried trim if necessary. Any adhering gelatin can be washed off with a damp sponge.

(b). See Photo-Beacon for January, February and March, 1903.

Chicago, February 9, 1904.

To The Photo-Beacon:

I have noticed a few inquiries in your columns as to the best method of mounting prints without destroying the gloss of the print.

I will have to say that although I

have never tried the following method, I have been assured by the party telling me about it that it is a perfect mountant and one that will not stain the print or injure the gloss:

Make a saturated solution of pure white shellac in wood alcohol by putting in more of the shellac than the alcohol will take up and carefully decant. Apply the decanted solution thinly to the back of the print while on the ferrotype and let it dry. Place the print on the mount and cover it with a piece of white paper and press it with a *warm* (not hot) iron, and the print will be mounted in fine shape. A too warm iron will make the shellac so soft that it will not stick to the mount. If for any reason you should ever desire to remove the print, press it with a hot iron and the print will come off of itself.

Yours sincerely, E. P. Sperry.

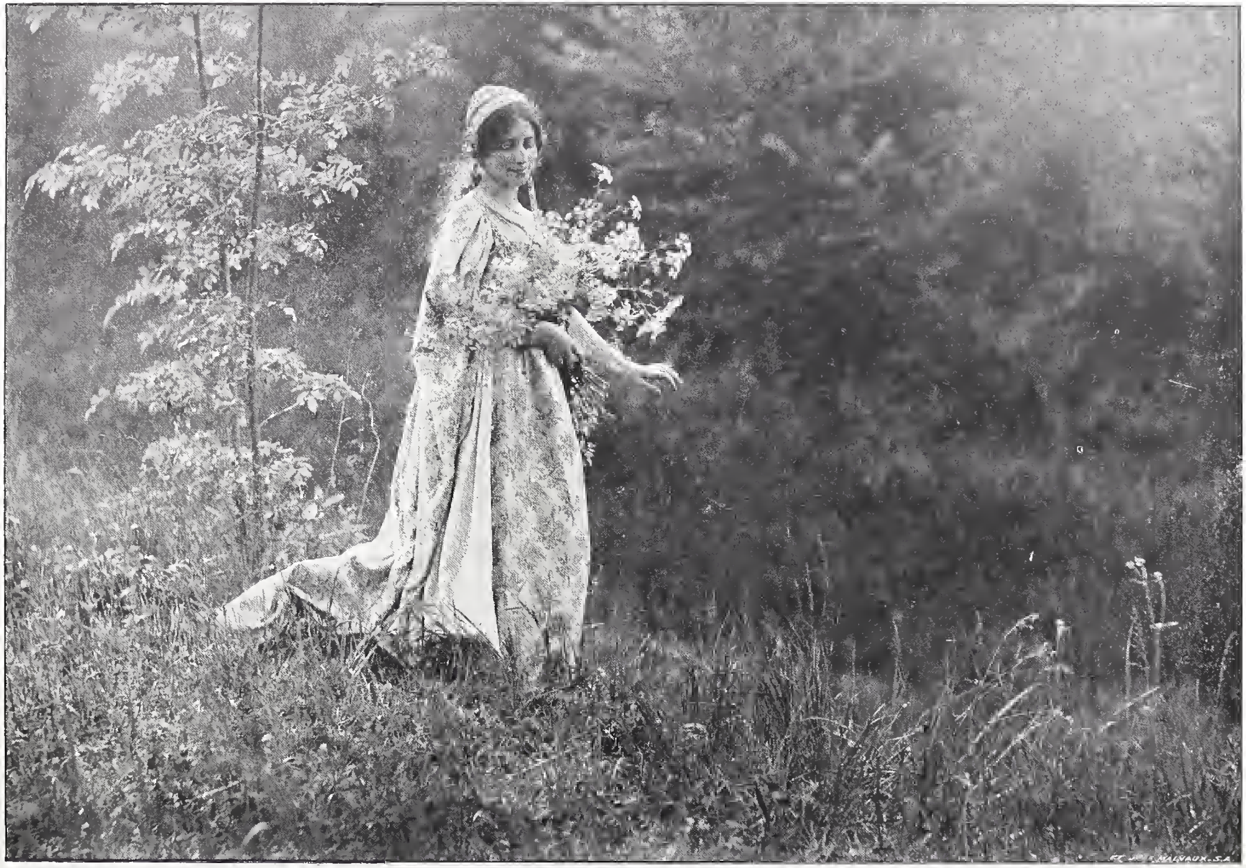
EDITORIAL TABLE.

Unal is Rodinal in powder form. The latter we have known for years, in fact had an experience with it that is rather unique. Over a dozen years ago we used about half a bottle, and the balance then started on quite a career of travel. It crossed the Atlantic, going as far west as South Dakota, then found its way to Chicago. It occupied positions in basements and attics for a number of years, and at length found repose for a few years more on the shelf in our darkroom, where it remained until one day we found ourselves with a plate to develop and nothing in sight but rodinal. With much dubiety, a bath of it was made, and much to our surprise it worked just as well as it did when the bottle was first opened. It was with interest we tackled Unal, whose mission it is to provide Rodinal by the addition of water. It cannot be that its reason for existence is because of the unstability of its progenitor, but simply to avoid giving storage room to water. Anyhow our mission was to try it. At the same time we had Ansco film submitted to us by the Anthony & Scovill Co., so we combined both tests into one by making a dozen exposures on such snow scenes as could be got in an hour's run around in zero weather. We shot at plain snow, snow with trees, snow in the woods with the sun shining through the trees and losing itself in the deep ravines, foot-paths covered with snow, with heavy shadows under bridges, and so on. We developed for both ordinary printing quality, getting it all right, and then to see if good density could be readily obtained we easily got negatives so dense that it would require hours to get a print. Both Unal and Ansco films are good.

From W. J. Scandlin, 345 Sixth avenue, Brooklyn, New York, we have received copy of a little pamphlet that should be specially interesting to professional photographers. It is a "business getter," being a very neat booklet setting forth clearly the many points that a photographer desires the public to know, and at the same time tempt them into his studio. A copy will be sent on request.

The third edition of the Bausch & Lomb Souvenir of Prize Pictures, now fresh from the press, duplicates all the excellent qualities of the two former editions, which were sold out within a few days of issue. This work appeals to the photographer chiefly because of the artistic superiority of the reproductions, which, through the use of tinted papers and colored inks, are almost perfect facsimiles of the original pictures. It is a beautiful portfolio of art, made doubly valuable by its numerous epitomes of present day phases of photography contributed by writers known to be specially qualified to discuss these themes.

C. P. Goerz, 52 Union Square, New York, has in his latest catalogue just to hand gathered together all the printed matter that he has issued in recent years, with the result that he has produced a very interesting book on lenses, shutters, binoculars and cameras. The articles consist of such matter as "Comparative Stop Denominations," "On the Choice of Lenses," "Tables Showing the Relationship of Focal Distance to Distance of Object," "Reducing Table," "A Trip Through the Goerz Optical Works, Showing How a Lens is Made." While all the articles are very interesting, the last one will be specially so to the general reader — particularly as it is profusely illustrated. The catalogue contains one hundred pages, on practically every one of which there will be found one or more illustrations, so that the book is well worth having for these features alone. It will be sent free on request.



C, Puyo,

PRINTEMPS.

Courtesy of the *Bulletin du Photo-Club de Paris.*

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 805 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XVI. APRIL, 1904. NO. 4.

WHAT IS AN EDITOR?

He is a lot of things which I need not mention, but so far as the reader is concerned he is a combined filter and funnel. He is more to be judged by what he keeps out of his paper than by what appears, but unfortunately the reader never sees the trash that is consigned to the waste-paper basket. In the case of a trade or scientific journal certain errors are perennial and have to be killed about once a week. Not long ago I was in the company of half a dozen leading figures in the astronomical world, and we were amusing ourselves by discussing how best to get rid of fundamental errors that hindered the progress of the world. As my mite to the solution of the problem I contributed this quotation: "Error is never overcome by being refuted but by being neglected." One of the stargazers at once exclaimed: "Now I understand why we have never been able to kill the errors in astronomy that have been refuted annually for at least fifty years, so in future I propose to simply neglect them and so save nervous tear and wear." Take a simple illustration in photography. It has been scientifically determined that it is utterly impossible to modify the ratios in gradation of a plate by altering the proportions of the constituents of a developer after the image has appeared, yet never a week passes but I notice columns of pure stuff about developing with brains — that is by monkeying with the developer. It is very readable, sounds fine, but all the same it is perfect rot.

The reader seems to like this kind of stuff, so he gets it, then he plagues me by writing pages setting forth how by wonderful manipulation in the dark-room, extending over an hour or two, he managed to bring out the peculiar effect he was after. It is simply a case of self-fooling, that is all. Self-fooling is the only exception to the kind of fooling that shrewd Abe Lincoln talked about, for the average man can fool himself all his life long.

The right kind of an editor of a photographic journal is a teacher, not a preacher. The mission of the latter is to tell the "old, old story." When he dares spring something new upon his hearers, he is at once branded as a heretic and flung out of the church, lucky to be living in this century rather than a few hundred years ago, when he would have been burned at the stake. The pew is to blame for the monotony in the pulpit. The hearers pay for dulness and get it. The Presbyterian wants his particular brand of truth, the Roman Catholic and Baptist want theirs, and so the preacher must not provide any food that is not on the regular bill of fare.

The teacher's mission is different. It is his business to dig out the actual facts of things, and give his pupils results in condensed form so as to save their time. But there is always a vast amount of matter in the "debatable land," so to speak, where no definite decision has been reached, and here he must be fair and present all sides of the question. Like other men he has his own ideas, likes and dislikes, but he must suppress himself for the good of his pupils, for, after all, who or what is one man that he should presume to dominate the multitude?

I am led to make these remarks by the shoals of letters that come to me at this time of the year from subscribers finding fault with the kind of pictures reproduced in this journal. Each wants only his pet brand of goods, and will have no other. He desires to make a preacher of me, but I decline the honor with thanks. At least a score of disappointed individuals at the Chicago salon have written to assure me for my personal benefit that the jury picked out the very worst picture submitted by them and rejected all the really good ones. This is quite interesting, of course, but the jury have a right to a few thoughts, and some of them may may not be quite complimentary to these individuals.

The conclusion of the whole matter is this — if the editor does not think he is sufficiently omniscient to know everything, and feels that in justice all round he should give all sides to a question, it may be presumed the average reader does not know it all in every case.

F. Dundas Todd.

PICTORIAL COMPETITION No. 70.

The lantern-slide competition is never a very popular one and this month only half a dozen competitors entered. The judging was done by the members of the Chicago Camera Club, the slides being thrown on the screen, while the decision was the result of popular vote. It was rather interesting to listen to the arguments pro and con, and even amusing to see how slides made by members of the society were ruthlessly set aside. The following are the awards:

First Prize.—W. H. Porterfield, 100 Lake View avenue, Buffalo, New York.

Second Prize.— H. C. Knocke, 1693 Wellington street, Chicago.

Third Prize.— John M. Schreck, Buffalo, New York.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else.* The outside of the package, in addition to our address, may bear that of sender. Accompanying a letter or postcard should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.

2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.

3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.

Second—Books to the value of $2.50.

Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

FUTURE COMPETITIONS.

Competition No. 72 — Waterscapes. Closes April 30.

Competition No. 73 — Branch of a tree without leaves, with special consideration of decorative effect. Closes May 31.

Competition No. 74 — Domestic animals. Closes June 30.

Competition No. 75—Genre pictures, or pictures that tell a story. Closes July 31.

Competition No. 76 — Branch of a tree with leaves, with special consideration of decorative effect. Closes August 31.

Competition No. 77 —" At Home " portraiture, that is, portraits not made in a studio. Closes September 30.

Competition No. 78 — Snap-shot pictures. Closes October 31.

Competition No. 79 — Landscapes. Closes November 30.

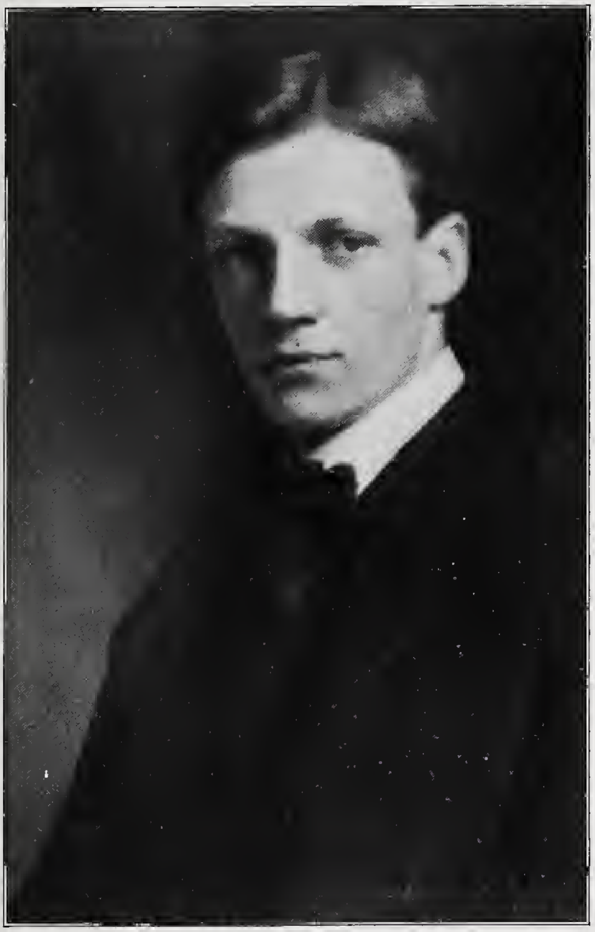
Competition No. 80 — Flower pictures. Closes December 31.

NEW ENGLAND CONVENTION.

The convention of the Photographic Association of New England will be held in Boston from August 24th to 26th, inclusive. The secretary, George M. Bolton, Rockville, Connecticut, will furnish all particulars.

PROFESSIONAL PORTRAIT COMPETITION No. 3.

Before I settle down to the actual work of this month's contest, let me get rid of some dust. A few of the competitors have written to say that much as they appreciate my good intentions, they think I am just a little too hard in my comments. Well, I don't think so, and since I am running this thing I propose to do it in my own way. Just let these gentlemen carry their memory back about seven years ago when I was on the warpath with them about lighting, and they will remember I was simply merciless in my criticism of their convention exhibits, but I attained my object, which was to make photographers think. Hundreds of men have told me that they have felt so hot they could have killed me on sight, but — and this is most important — for a year they never made a negative without wondering what I would think of it. In other words I became the spur that kept them striving to excel themselves. May this department have the same influence over every one of its readers is my earnest desire; may each photographer strive to make every sitting so that he can win first prize in this competition.



FIRST PRIZE.

Now to this particular competition. I am much pleased with it, because there were double the entries of last month, and because the average quality is ever so much higher than before. It is evident this competition will shortly resolve itself into a battle of giants, and the men who win prizes will have cause for feeling proud. Better come early and avoid the rush.

The first prize falls to the gentleman who has attained the same honor in the previous competitions. Let me whisper gently to photographers, only two years ago he was an amateur, and he proposes to hold the first position monthly until it is wrested from him. This looks to me a good deal like a "defi," and I await the outcome with interest, for I can not believe the ten thousand photographers in this country are willing to let one man crow over them. He is a hard man to beat, for his one aim as a portrait photographer is to portray the character of his sitter, not merely to make a map of a face. In connection with this point I would ask that special attention be given to my comments on Z's work. So "up, photographers, and at him."

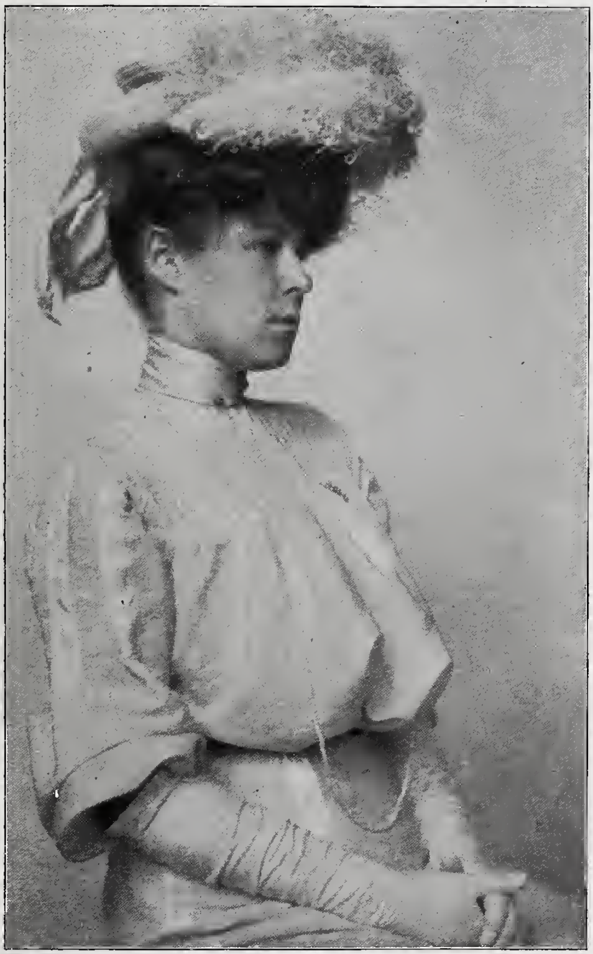
The first prize picture shows the portrait of a refined, cultured gentleman, evidently æsthetic in his tastes, with one of those rarely balanced minds that can appreciate the relative importance of things and so never gets excited or flurried. This man would never indulge in unseemly wrangling over trifles — life would be too short, besides there are so many big things to think about. I suspect he is an artist, but I could not fancy him as possessing the smallest atom of the petty jealousy that is too commonly found among the artistic small deer. I would draw particular attention to the fine tone value all through this portrait, my only objection being to the rather undue prominence of the ear against the dark background.

A charming symphony in gray is the characteristic of the second prize picture. The maker, located in a town of less than four thousand, evidently has a keen appreciation of tone, and I have to confess I can not find one flaw in this respect. His composition could, I think, be improved. It is evident he was handicapped by the ribbons on the back of the hat, for otherwise I can not explain why he "tied" the figure so uniformly. "Tying," I may explain, is a technical term describing the connection of the subject with the margin of the print. In the portrait under consideration the figure is "tied" at the top by the ostrich feather and at the bottom by the lines of the dress, the two latter being similar. The natural place, it seems to me, to tie on the left is where the right shoulder would meet the margin, but if this be tried it will result in three points of contact on this side, namely, ribbons, shoulder and elbow. The trimming is the best possible, if one desires to show the head and hands intact, but if that is not considered essential the print may be trimmed with advantage rather close to the ear, and cutting off about as much on the other side. I am inclined to think better lines would have been secured by turning the whole figure a little more toward the lens, for the view of the face is the one that I took exception to last month as being neither profile nor three-quarter.

The third prize picture is a much more difficult problem, for here is a range from a pure white to a dark black. The tones are beautifully handled, subtlety of gradation everywhere, all masses blending into each other in a way that tells me the photographer was hugely enjoying himself as he arranged the lighting, for had he not been in love with his work he could not have produced this charming result. I am only afraid that the sepia toned print will reproduce so poorly that the fine quality will be lost. Notice the simplicity of the masses — dress, tie, face, hair, background — all different in size, shape and color value, yet how charming in their very simplicity. Then note the "tying" of the dress to the margin, different. What is my objection to the print? Only one, but one too common in portrait photography, and it is this — I don't like the head leaning away from the lens, for it gives too humble an expression to the body, and here the expression in the face and the pose of the head hardly harmonize. The photographer is from a town of about six thousand.

HONORABLE MENTION.

Z.— But a few years ago this would have been considered beautiful work. The figure is clean cut and sharp, for every hair on the head, every spot on the dress, every thread of the lace can be seen without the aid of a magnifying glass. Exposure is perfect, development right, printing is excellent, lighting according to the rules. Yet what doth it lack? Which reminds me of a clever speech I heard recently on the " wisdom of wit." Trying to define wisdom, the speaker said a man should be able to write well, but not too well; to spell well, but not too well; to dress well, but not too well, and so on through life. In other words, wisdom consisted in being able to appreciate the end that one was striving for, and to subordinate the tools to the end. It seems to me the maker of this portrait was thinking more about focusing, exposure, development, printing and toning than about the lady in front of his lens.



SECOND PRIZE.

Leonard.—In many ways this is superior to the portrait referred to above. The lighting on the face is much better, in fact, it is almost perfect, but the faults are as with the other, the technical excellencies prevail so decidedly that they overwhelm the principal aim.

J. B.—A family group of mother and child, but really intended for a child portrait, the mother being subordinated by her face being turned toward the baby and away from the lens. The idea is excellent. The composition is too one-sided; the balance should have been restored by the introduction of some object, such as a picture frame in the large space to let on the left.

Portrait of Mrs. T.—This is not a portrait in the ordinary nor in the best sense, but it is a splendid bit of composition. I have no trace of the maker's name, and can not, therefore, be certain that he is a professional photographer, but if he is — well, I am sorry to say there are not enough like him in the knowledge of decorative arrangement.

ALSO RAN.

Apple.—Lighting on face fair, but background too dark to harmonize with figure.

Van F.—Posing of child good, because natural, lighting fair, trimming not at all suitable; try oblong panel close to figure.

Hassan.—Head too low on print for an adult, figure too symmetrically posed; come again, for there is good stuff in you; all you need is wakening up.

Cobb.—There are some mighty good points about your work and some very bad ones. The pose is easy, the lines good, while the gradation in cloak, face and hair is excellent, but the ostrich feather in hat is a shapeless mass of white. The worst feature of all is the presence of two large meaningless white patches on each side of the head that simply overwhelm the light tones in the face. You can easily do better.

Those not mentioned are so crude that the best advice I can give the makers is to study some very elementary books on composition and lighting.

F. Dundas Todd.

RULES.

1. Only one print to be submitted in any one month, and this must be from a negative made in the ordinary course of business within sixty days of the date it was mailed.
2. The pictures will be judged on the first day of each month, and all prints received prior to that date will be included.
3. Requests for private criticism, accompanied by a fee of $1, may be sent along with the print and will be answered after the judging is over.
4. Mark outside of package with the words " Portrait Competition."
5. Prints are not returnable.

GOOD NEWS FOR CAMERA USERS.

WORLD'S FAIR, ST. LOUIS, 1904.
St. Louis, U. S. A.,
March 16, 1904.

Mr. F. Dundas Todd, 805 Security Building, Chicago, Ill.:

Dear Sir,— Relative to yours of December 25, 1903, inquiry regarding the use of cameras.

I beg to advise that the exposition management has determined that patrons of the exposition may use hand or tourist cameras, 4 by 5 inches or smaller in size, without tripods, free of any charge.

The Official Photographic Company will have stations on the grounds where full lines of kodak supplies will be available for the use of these patrons, if such is their pleasure.

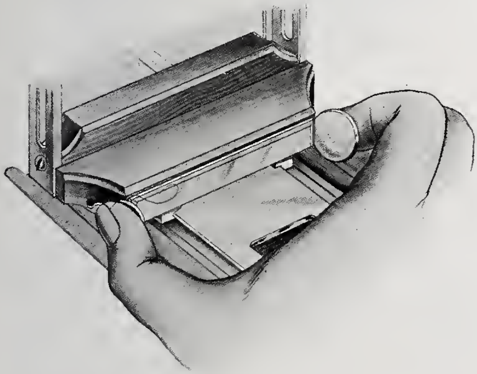
Yours very truly,
John A. Wakefield,
Chief, Department of Concessions.

NEW CAMERA CLUB IN BROOKLYN.

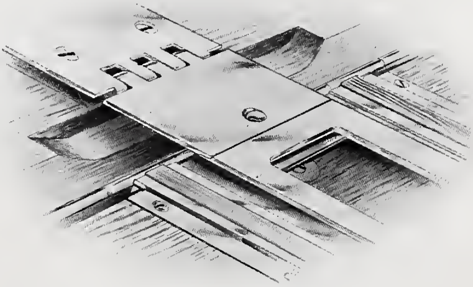
The Cosmopolitan Camera Club was organized on February 20, 1904, the membership being open to both ladies and gentlemen. The headquarters are at 1076 Hancock street, Brooklyn.

NOVELTIES IN CAMERAS.

The first camera catalogue of the year comes to hand from the Rochester Optical Company, Rochester, New York. The sniff of spring being in the air — and welcome it is, for from the middle of November until the first week of March, we folks in Chicago have not had a chance to see the ground — such being the case, we find lots of our correspondents are chirking up a little and talking about doing some photography. Our blood being in similar condition, a new catalogue becomes interesting, and so we settle down to find out what is new in the camera line. The Premo people are very considerate and obligingly devote four pages of their catalogue at the very beginning to the new features of their instruments, fully illustrating them so that any one can understand them.

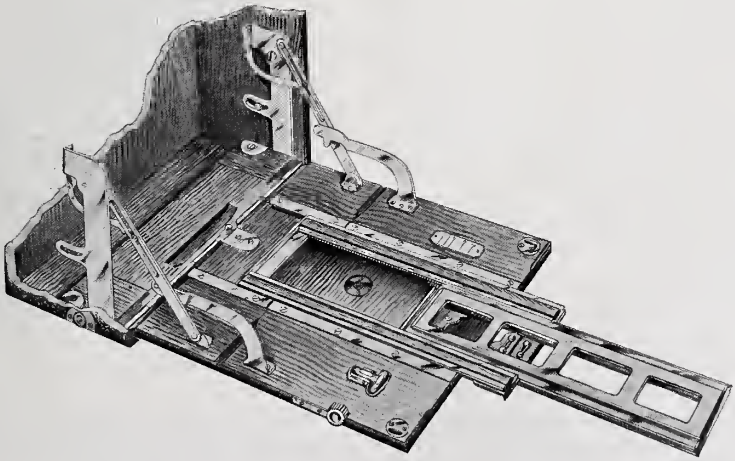


PREMO AUTOMATIC STANDARD CLAMP,



PREMO AUTOMATIC BRIDGE.

The first feature to attract our attention is the new form of swing-back in these hand cameras. From a strictly optical point of view the only correct swing-back is the one that swings from the center, but until recent years camera makers were content to swing the back from the bottom, seemingly being unable to devise a simple form of center swing. In the new Premo the difficulty is got over by making the bottom part of the back slide, and this adjustment also permits of the movement being much or little as may be found necessary, also

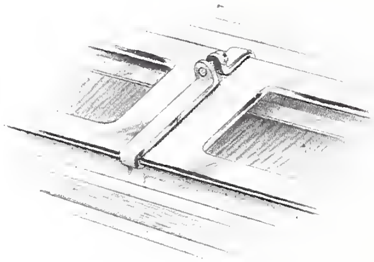


Showing construction of center swing and triple extension bed.

allowing of the back being securely locked at any point.

The triple extension bed in the long focus instruments is made entirely of metal, thus avoiding the possibility of jamming during the hot, muggy weather of summer. One pinion works the entire bed and also serves to lock it rigidly at any point. When the first section has been extended it automatically locks itself rigidly and the next section begins to move. No friction or lost motion exists and the same perfect free movement is had, whether the bed is fully or partly extended.

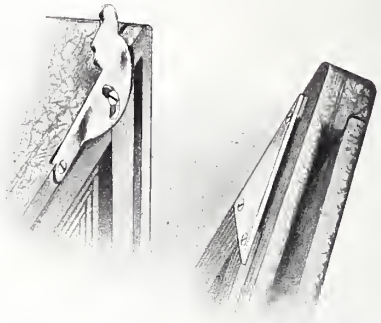
The Automatic Standard Clamp is a device that locks the standard firmly to the bed at any point. Simply grasping with thumb and finger releases the lock, while it will lock automatically the instant the pressure is released.



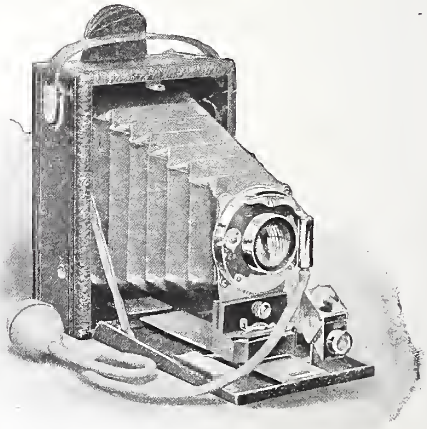
UNIVERSAL BED STOP.

We all know the trouble that may arise when the standard jumps the tracks, that is to say, when in drawing out or pushing in the bellows it misses connections at the end of the baseboard. Such an incident has produced language, profuse but not polite. With the Premo Automatic Bridge, such a mishap will be impossible, as there will exist no gap between the two parts of the baseboard when the camera is open.

The Universal Bed Stop reminds us of a crude contrivance a gentleman famous in the scientific world showed us about a dozen years ago. He had about a hundred of 6½ by 8½ prints of Mexicans, all arranged in the most natural way in the world, and he explained his success thus: In the baseboard of his camera he had drilled a few holes for certain distances, into which he fitted an ordinary screw. On pulling out the bellows the standard would be held by the screw wherever it happened to be, in other words, this was his focusing scale. Wandering round with his instrument on the tripod nobody paid any heed to him until he spread out the legs, and then every body stood up in a heap and stared at the instrument. Here, then was his trick: he placed the holder in position, drew out the slide and walked round till he saw something suitable. He chose his point of view in a very careless manner, gauged the distance, set the stop, racked out the bellows till the standard reached the stop, and then he was ready. He did not spread out the tripod, but he just



REVERSIBLE BACK FASTENER.

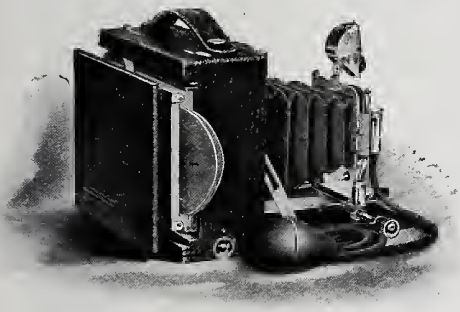


PREMO FOLDING FILM CAMERA NO. I.

stood holding the whole thing in the hollow of his left arm, the tips touching the ground, as if he really did not know what he should do, but incidentally the lens was pointing the way he wanted it, and the instant he saw a combination that suited him best he pressed the bulb and nobody suspected he had made an exposure. We have found his method was a good one, even with a hand camera, for the presence of the tripod disarms suspicion. And now comes this invention of the Premo people getting at the same end in a very simple way.

Another new feature is the Reversible Back Fastener, whose mission is to provide for changing the reversible back quickly, certainly, and without the risk of disturbing the camera in its position. No springs are required in this form, and it is guaranteed to last indefinitely.

To come to the new instruments, the first on the list is the Premo Folding Film Camera, Nos. 1 and 2, made in various sizes, 3¼ by 4¼, 3¼ by 5½, and 4 by 5, the middle size being designed for postal card pictures. These instruments are essentially for tourists and others who prefer lightness, and are specially designed for use with the Premo Film Pack, which proved so popular last year. By the use of aluminum wherever possible the weight has been reduced to eighteen ounces in the smallest size and to twenty ounces in the larger.



STAR PREMO AS A FILM CAMERA.

The regular Premo series has received quite a number of additions. There is a new pocket instrument for use with both plates and films. In the pony type we have three new styles, ranging from 3¼ by 4¼ to 5 by 7, all possessed of the excellent new features already described, and having, in addition, new automatic shutters, and all suited for use with both ordinary plates and the new film pack which has evidently come to stay.

Altogether the catalogue is a very interesting one and should be in the hands of every amateur. It will be sent by the Rochester Optical Company, Rochester, New York, on request.

ENLARGING FROM FILMS WITH THE OPTICAL LANTERN.

Now that the season of short days and long evenings has returned to us again, numerous amateurs have unearthed their lanterns, both the enlarging instrument and the good old magic lantern, and it is with the users of the latter that I should like, with the editor's permission, to have a brief chat. Many amateur photographers must be aware that, under certain conditions, the magic lantern, or, to be more scientific, the optical lantern, forms an excellent enlarging apparatus. The chief drawback is the small size of the condenser, which limits to a great extent the size of the negative that can be used. The measurement of the diagonal of the negative must be equal to the diameter of the condenser, which in all standard instruments is three and one-half inches; thus, a quarter-plate is the largest size that can be carried in the lantern, and then only a portion of the negative can be enlarged.

But there are numerous users of the small film cameras of the folding pocket variety, producing most excellent negatives smaller than quarter-plate, who will, I am sure, derive great satisfaction in being able to make very praiseworthy enlargements from their small films. Now enlarging from films requires a little more care and skill than enlarging from glass plates, and the following wrinkles, which have all been derived from personal experience, will, I hope, help to prevent the enthusiast from meeting with some of the disasters which befell me at the outset. The instrument which I used, and which, by the way, was kindly lent to me, was of the ordinary magic lantern type, of good make, and had done excellent service, from missionary meetings to school treats. It was provided with a three-wick lamp and a quarter-plate carrier, which is the most convenient size for our purpose. I must here remark parenthetically that even some of the smaller films may be a trifle too long to be entirely included by the condenser, and, therefore, the portion of the negative and the subject must be carefully considered beforehand. Having then set up the lantern and the easel for carrying the bromid paper, the next thing is to look around for stray beams of light. Some workers advocate placing the lantern in a box, but this I found was quite unnecessary, and, moreover, it was difficult to get at the carrier, etc. A few large pieces of cardboard placed against the lantern at the end and sides are quite enough to shut off any extraneous light, and a thick cloth or two placed round the base of the front extension will effectually exclude any light shining directly upon the bromid paper. The light reflected upon the ceiling is of no consequence, and it is surprising what an amount of reflected light bromid paper will stand without fogging, provided the light does not shine directly upon the sensitive surface. And now we come to one of the most important operations in film enlarging, namely, the mounting of the film between glass plates. Let the amateur beware of merely sandwiching the film between the glass and then dropping it into the carrier, for he will discover later on, probably while focusing, strange looking streaks making their appearance over the choicest portions of the picture. These streaks mean the ruination of the negative, and are due to moisture forming on the glass, produced by the heat from the lamp, causing slight local melting and adhesion of the film to the glass. There is no subsequent cure for this that I know of, and, therefore, prevention is the wisest course to adopt. This preventive method is quite simple. Having cleaned two quarter-plate pieces of glass, thoroughly warm them over the chimney of the lantern. Then treat the film in like manner, being careful to keep it moving horizontally, and on no account allow a corner of it to get into the chimney, for it will sizzle and blaze up instantly. This is very important to remember, as films are highly inflammable. Having got the film thoroughly hot, place it between the two glasses and bind with a few turns of thread at each end; then place in the carrier, with the "film" side toward the objective. Having focused, place a box or stand of some sort underneath the lens, and arrange a piece of ruby glass to lean against it. This answers the purpose of a ruby cap, and the exposure is made by removing the ruby glass. The duration of exposure must be determined by experimenting with small pieces of paper. Some parts of the negative may require double and treble the amount of exposure of others, and these latter must be shielded by oscillating a piece of cardboard in front of the bromid paper. It may happen that the middle portion only requires longer duration, as, for instance, the long crest of a wave. This can be effected by cutting a long narrow slit in a large piece of cardboard, and moving it up and down, thus preventing a rigid outline. A thin, cloudless sky can be greatly improved by using a piece of ground glass as one of the supports for the negative, and working upon the roughened side with a soft pencil. A great variety of dodges of this sort can be resorted to in order to produce a satisfactory enlargement, and various treatments will suggest themselves to the worker after he has experimented a few times. Development of the latent image is not the purport of this chat, but I will conclude my remarks in the praise of amidol as giving pure blue-black or soft gray tones according to strength, at the same time being a clean and simple developer to use.—*The Amateur Photographer.*

C. Hutchinson Johnson.

THE PRACTICAL TESTING OF PHOTOGRAPHIC LENSES.

BY REG. S. CLAY, B.A., D.Sc.

[In this article, Dr. Clay, who is well known, not only as one of the few possessors of one of the highest scientific degrees obtainable — that of Doctor of Science of the University of London — but as the head of the Wandsworth Technical Institute, tells in language of the clearest possible character how a photographer may test his own lens. With the help of a very simple and easily constructed appliance, without recourse to formulæ or mathematics beyond the four elementary rules of arithmetic, the possessor of a lens following out the instruction given below can find out more about it than it is quite possible he has ever desired to know. What is more, he will obtain a clear idea of the meaning of the knowledge so derived, and its application to the practical work he expects his lens to perform.—Ed.]

I.—PRELIMINARY.

Most photographers look upon the determination of the focal length of a lens, and still more the testing of its achromatism, flatness of field, or astigmatism, as matters quite beyond their reach, and upon which they must take the maker's word without any means of checking it. They are thus quite unable — apart from actual trial in the camera — to form any opinion upon the relative merits of the lenses of different makers.

THIRD PRIZE.

The results of tests in the camera depend upon so many factors that even an experienced worker can not be sure that any want of definition is really due to the lens. In buying a lens he is guided only by the price or by the report of some friend who has used a similar one.

It would be far more satisfactory if photographers could measure the extent of the errors, and so compare on a definite and scientific basis its value for their particular work. A lens for landscape work, for instance, need not be so perfectly corrected for curvature of field and astigmatism as for photo-engraving, nor is its achromatism of such importance as it is in three-color work.

It must be understood that the corrections even of the most modern lenses are not absolute; it is a matter of degree only. If each maker supplied curves showing the aberrations of his lenses (and if those curves could be relied upon) a purchaser could select the cheapest lens that was sufficiently corrected for his purpose without fear of disappointment. As it is, he is obliged to buy one of the more expensive lenses for fear that a cheaper one might be useless for his purpose. This may mean only money thrown away, and even then he may not acquire the one that would have suited him best.

This condition of things is due not so much to apathy on the part of photographers, who are, for the most part, fully alive to the importance of the matter, but rather to the fact that the descriptions of the errors themselves, and the methods of determining them, are so beset with mathematical expressions and formulæ in the books they consult, that ninety-nine out of a hundred who attempt to learn anything of them from the ordinary text-books give up the task as hopeless.

Now it is perfectly true that the calculations of the errors and those involved in designing the lens in the first place are necessarily heavy; but the experimental examination of the completed lens, and the determination of those same errors, need involve no mathematical work at all, and all the constants can be found without the use of a single formula.

II.—TERMS EMPLOYED.

These are very few and easily understood. I will describe them experimentally.

If A B (Fig. 1) represents a photographic lens combination, and light from a distant point passes through it from front to back parallel to the axis of the lens, it will converge to a point F_1 somewhere at the back of the lens, on its axis. This point is called a "focal point" or "principal focus."

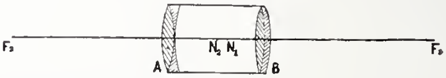


Fig. 1.

If we measure a certain distance called the "focal length" of the lens from this point F_1 along the axis toward the front, we shall come to another point N_1, which is of great importance. It is called a "principal point" or a "nodal point." We may almost call this point the key to the situation, for if we know it and the focal point we have the focal length at once.

In the same way if parallel light (that is, light from a distant bright point) pass through the lens from back to front it will converge to a point F_2 on the axis in front of the lens, which is the second "principal focus." A point N_2, distant the focal length of the lens from E_2 toward the back, is the second nodal point.

These nodal points have a very curious property. If the lens be mounted on a turntable so that it can turn about a vertical axis passing through N_1, and a distant object be focused on a screen at F_1, no motion of the lens round this axis will have any effect on the position of the image at F_1, which will remain perfectly stationary. Should the axis not pass through N_1, but be a little in front of or behind it, the image will move to and fro as the lens is turned. It is by this property that the nodal point is found. The experiment is very striking, and can be easily repeated.

III.—THE DETERMINATION OF THE NODAL POINT AND THE FOCAL LENGTH OF A LENS.

Attach two upright pieces of board, each with a V cut at the top, to a small board a few inches square. They must be so placed that the lens to be tested can be laid in the Vs, as indicated by the dotted lines in Fig. 2. Drill a series of holes about a quarter of an inch apart exactly along the center of the board, so that when the lens is in place they shall be vertically under its axis.

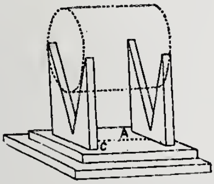


Fig. 2.

Insert a stout pin in another board, point upward, to act as a pivot, and place this little piece of apparatus on it, so that the pin enters one of the holes as at A. Then it is obvious that by keeping the lower board fixed the lens can be rotated about a vertical axis through A.

Now set this up at the back of a room facing a window, which must be open, and focus some distant object, such as a distant weathercock, with the lens on a screen. Try the effect of rotating the lens. The image will generally move across the screen as the lens is turned. Notice both the direction and the amount of this movement. Repeat the experiment with the pivot in each of the holes in succession, of course, focusing the screen afresh for each hole.

With an ordinary lens there will be one hole, such as C, about in the middle, for which the motion is very slight, and it will increase as the pivot is shifted either way. It is important to notice further that the direction of motion of the image across the screen for those holes in front of C is opposite to that when the pivot is in any of the holes behind C. In other words, the right hole C is always between holes for which the motion of the image is in opposite directions. (This fact is worth remembering in testing peculiar lenses, such as telephoto lenses, for which the point C is a long way from the middle of the lens.)

Having found the hole about which

V. V. Snook, CHICAGO SALON. Chicago.

the motion is least, by a slight movement of the lens forward or backward in its Vs it will be easy to place it so that the motion of the image vanishes entirely. The nodal point is then vertically above the pin, and the focal length is the distance from the pin to the screen, which can, of course, be easily measured.

It is very curious to see the image remain absolutely stationary on the screen while the lens is being turned to and fro. To succeed in the experiment the pivot must nicely fit the holes, and the boards must be perfectly flat, so that they may work on one another without shake.

IV.—INDOOR METHOD OF FINDING THE FOCAL LENGTH.

It is not often that a suitable distant object can be found for the above experiment, and there are many reasons which will occur to every one that make the method undesirable in a climate like ours. I have therefore adopted a modification, using the same apparatus, which depends upon the following simple principle:

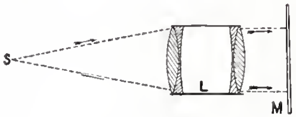


Fig. 3.

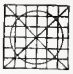
If we allow light from a bright point S to fall upon a lens L (Fig. 3) it will emerge as a parallel beam when S is at the principal focus of the lens. If now a plate glass mirror M be placed square with the lens so that this beam of parallel light may strike it perpendicularly, every ray will be reflected back along itself, and they will therefore form a parallel beam of light going back to the lens. But a parallel beam of light falling on the lens will converge to its focus, and therefore this will again converge to S.

Then it follows that if a bright point of light S, a lens L, and a mirror M are so arranged that the light returns along its path and converges again to S, the rays must all have struck the mirror perpendicularly, and therefore were parallel to one another. Thus S must have been the principal focus. This enables us to do without our distant object.

Nor is this all, for if the lens be rotated as before, there will be no motion of the image formed at S if the axis of rotation of the lens passes through the nodal point, while a rotation about any other point will cause the image to shift to and fro. We can therefore find the nodal point at the same time as the principal focus, and so determine the focal length.

This method with a mirror and light has another recommendation. It can be used in a room not specially darkened, and there is no necessity to put one's head under a focusing cloth, as the image is very easily seen on the screen.

In practice we do not use a point at S, but a small object. This can very conveniently be made from an unused dry plate. The film must be very neatly removed from an area about 3-16 of an inch square, and a few sharp clean lines ruled on the clear glass in this area. These should consist of five horizontal ones, the same number of vertical ones, the diagonals and a circle. The gas flame (an incandescent for choice) is placed behind it. A piece of zinc with a similar hole is placed against the back of the plate to keep the light from the rest of the plate, which is to act as the screen. The lines are on the film side of the plate, and that side is toward the lens.



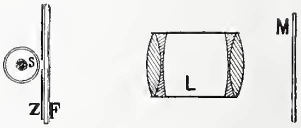


Fig. 4.— S, Incandescent gaslight. Z, Zinc plate, with a 3-16 inch square aperture. F, Dry plate with ruling. L, Lens. M, Mirror.

The light coming through the hole in the screen must be arranged to pass through the lens and fall on the mirror M (Fig. 4). This must then be adjusted until the light is reflected back to pass again through the lens, and form a bright patch on the screen almost at the top of the ruling. This will be just a patch of light at first, but by moving the lens nearer or farther from the screen it will be brought to a sharp focus. The mirror must be adjusted until this image is almost overlapping the ruling itself, that is, until it is just by the hole in the film.

Lastly, the lens must be rotated on its pivot and adjusted as previously described until its rotation produces no motion of the image on the screen. When this is attained, the distance from the pivot to the screen is the focal length of the lens.

It is surprising to any one accustomed to the difficulties met with in ordinary optical bench work to find how easily and accurately the focal length can be determined by this apparatus. For good work the rotating turntable for the lens — the " nodal slide " I have called it — should be made of metal. Mine was made for me by Everett & Company of Charterhouse Square. With a little practice it is possible to find the focal length of a photographic lens to a few hundredths of an inch in about two minutes with this apparatus. And a series of lenses of about the same focal length could be tested in a few seconds each.

PORTRAIT OF MRS. T.

V.—ERRORS OF LENSES.

Perhaps of even more importance than the focal length is a knowledge of the manner in which the several aberrations of the lenses have been corrected. The most important of these are (a) curvature of field, (b) astigmatism, (c) want of achromatism, (d) want of aplanatism, and (e) distortion.

I shall not attempt definitions of

these, as the best way to understand and distinguish between them is to go through the simple experiments about to be described. This is also the only way to realize them and to be able to appreciate their relative importance in any given case.

It must be clearly understood that the errors are quite distinct from each other, and to a large extent independent, though not entirely so. For instance, until the new anormal Jena glass was produced it was impossible to correct both for achromatism and astigmatism and curvature of field, and thus none of the old lenses are perfectly stigmatic. Also if the lenses of an old symmetrical combination are at such a distance that the astigmatism is a minimum, the field will be curved. By increasing the distance between the pairs the field will become flat, but the astigmatism becomes greater. In fact, altering the distance apart of the two pairs of lenses of a compound lens will improve the one at the expense of the other. Thus in all the older lenses and in the present cheaper ones, one or both of these errors will be found.

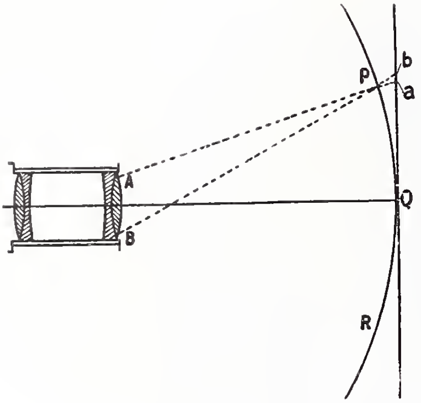


Fig. 5.

We will consider the errors one by one.

VI.—CURVATURE OF FIELD.

Every one who has had any experience with a cheap lens will have noticed that when the center of the picture is sharply focused, there is a falling off in definition toward the margin of the field. This is the more easily seen if the object itself is a flat one, as, for instance, in copying an engraving. By altering the focus the edges can usually be made more distinct, but then the center will be wrong.

To focus it all we should want a negative hollowed like a saucer, as P Q R in Fig. 5. With a flat plate, adjusted so that the center of the field is sharp, the rays forming the edges of the picture will generally have already crossed and begun to diverge again before they reach the plate, as shown at *a b* in the diagram. It can be easily seen from this figure that the area they will cover on the plate will depend upon the distance of P from the plate, i. e., on the curvature of the field, and also upon the aperture of the lens A B. Hence a smaller stop will improve the definition.

To measure the curvature we shall have to focus the center of the picture as sharply as possible, and then see how much the plate must be racked in to get the image in focus at successive distances from the center. This can be done directly with the camera by stretching a clearly printed newspaper on a flat frame and setting it up square with the camera. It will, however, be found necessary to use a strong light to obtain good results. It can be done both more conveniently and quite as accurately with the apparatus already used for the focal length. This is to be set up and adjusted as before, the image being focused sharply as close as possible to the hole in the screen, and with the lens perpendicular to the screen, and with the back of the lens toward the screen.

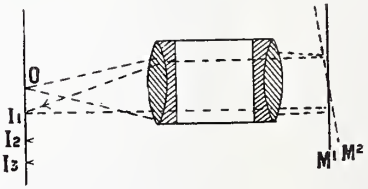


Fig. 6.

By tilting the mirror the image will be displaced. Let it be displaced exactly half an inch, say, to the left, and again focus it by moving the screen (not the lens), noticing at the same time how much it is moved. Then tilt the mirror enough to displace the image exactly one inch and focus again (see Fig. 6). Continue this to the edge of the field, each time noticing exactly how much the screen was moved to obtain sharp definition. Repeat the readings with the image displaced half an inch, an inch, etc., to the right of the hole in the screen. These will be the same as those taken on the left if the lens and screen were truly perpendicular. If they are very different, sufficient care was not taken to insure this condition, and they must be rejected.

Add the corresponding readings on the left and right to obtain the error.*

To compare the performance of lenses of different focal lengths the errors must be multiplied (not divided) by the focal length. The lenses will be equally good as regards their flatness of field if the products for the same distance from the center are the same.

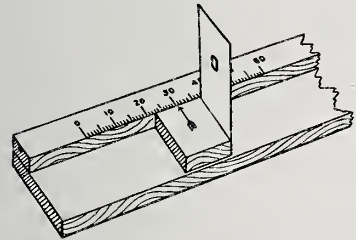


Fig. 7.

These products can easily be plotted on squared paper, and I should strongly advise diagrams to be made for each lens, as one can see by a glance at the curve to what extent the lens has been corrected.

A difficulty will be met with in focusing the image, especially toward the edge of the field. It will be found that the image can not be made quite sharp for any screen distance. In one position, however, the vertical, and in another, the horizontal, lines will be fairly distinct. The true position, however, is neither of these, but an intermediate one, for which all the lines are equally sharp. It will, therefore, be best to fix attention on the diagonals or the circle, rather than the horizontal or vertical lines during these readings.

Talbot, Schenectady.

To enable the movements of the screen to be easily read it should be mounted on a square block, and this block be made to slide against a graduated straight edge. The block will slide more smoothly if some thin cloth is glued upon it on those surfaces where it touches the guide, that is, on the base and one edge. I much prefer this simple plan to any attempt to fit the block between two guides or over a bar. By pressing the block against the graduated edge as you move it there is no difficulty in keeping it parallel to itself. The block should be three to four inches square and about an inch thick, and must be quite flat, so that there is no tendency to rock.

As an example will make the various steps clearer, I will give some actual readings made in the first place of a 6-inch lantern objective A, and then of a half-plate rapid rectilinear lens B.

---

* The sum has not to be divided by two, for in moving the screen we were at the same time moving our object, thus the error is twice as great as it seems.

My scale is divided in centimeters, and all the readings are therefore given in centimeters.

The focal lengths of these lenses were 14.6 and 16.4 centimeters respectively.

The field of B was practically flat. (It was, however, badly astigmatic, as will be seen in the next paragraph.)

The following readings were taken for A:

Distance of the image from the center.	Scale Readings.		Difference.		Error.	Error × focal length.	The last column divided by the square of the first.
	When image was on the left of the center.	When image was on the right of the center.	On left.	On right.			
0	29.90	29.90	......	......	......	......	....
1	29.87	29 90	.03	00	.03	.43	.43
2	29.83	29.85	.07	.05	.12	1.75	.44
3	29.75	29 77	.15	.13	.28	4.09	.454
4	29.65	29.68	.25	.22	.47	6.86	.426
							4)1.750
							.438

It will be noticed that the last column is practically constant. It is independent also of the scale — that is to say, it would have been exactly the same if the readings had all been taken in inches. We will call it the curvature coefficient. Thus

$$\text{Curvature coefficient} = \frac{\text{error} \times \text{focal length}}{(\text{distance from center})^2} = .438$$

It was zero for lens B.

VII.—ASTIGMATISM.

We have already pointed out that toward the margin of the field it is impossible to obtain good definition at any focus; this is due to astigmatism. If the lens is not astigmatic the definition at the edge can be made as perfect as at the center by merely altering the focus, the amount the focus has to be altered depending upon the curvature of the field. But if the lens is astigmatic, and the image is being formed very much to the left or right of the center, no perfect focus can be found, whether the field is curved or not. There are, however, two distances at which the horizontal and vertical lines, respectively, can be focused sharply. When these positions of the screen are far apart the lens is badly astigmatic: when they coincide, of course, the definition is good, and the lens is not astigmatic. Thus the measure of a lens astigmatism is the distance the screen has to be moved from the position in which the image of a distant horizontal line is in focus at the edge of the field to that in which a vertical one is in focus there.

To determine it with our apparatus begin as before, by focusing the image on a screen as near the center as possible. Turn the lens round its nodal point until the light is going as obliquely through it as it would be to the corner of the plate it is intended to cover; that is, until S K in Fig. 8 is equal to half the diagonal of the plate the lens covers. Now move the screen to and fro along the line S N until the horizontal lines

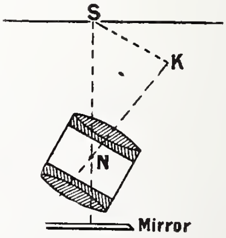


Fig. 8.

in the image are perfectly sharp. Note its position; then move it until the vertical lines are perfectly sharp, and again note its position. The distance between the two positions measures the astigmatism of the lens.

To succeed in measuring in this manner, it is essential that the vertical and horizontal lines, of which we are forming the image, shall be themselves sharp and clean. If any difficulty is found in this respect a screen can be made by punching a hole in a white card and stretching two hairs, one vertical and one horizontal, across it. A piece of zinc, also with a hole in it, should be put between it and the light to prevent the heat of the flame warping the card. The hole in the card should not be more than about an eighth of an inch across. The hairs must both be on the same side of the card, namely, on that facing the lens, and as nearly as possible in the same plane as one another.

To compare lenses of different focal lengths in regard to astigmatism, the error should be divided by the focal length of the lens. But when such a comparison is made, each lens should be turned through the same angle. Thus, instead of making S K equal to half the diagonal of the plate covered by the lens, the angle S N K should be kept the same, say 25° for ordinary lenses and 40° for wide-angle lenses.

The readings for lens A were:

Horizontal lines sharp at	30.15*
Vertical lines sharp at	30.35
Difference	.20 cm.

$$\text{Astigmatic coefficient} = \frac{\text{Difference}}{\text{Focal length.}}$$

$$= \frac{.20}{14.6} = .014.$$

The corresponding readings for B were:

Horizontal lines sharp at	19.24*
Vertical lines sharp at	20.29
Difference	1.05 cm.

$$\text{Astigmatic coefficient} = \frac{1.05}{16.4} = .064$$

VIII.—WANT OF APLANATISM.

When an object is formed by a short focus lens of large aperture, even the center of the image sometimes can not be brought to a sharp focus.

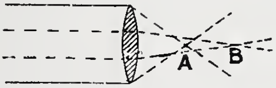


Fig. 9.

By the aid of Fig. 9 the reason for this will be understood easily. It can be seen that the marginal rays are brought to a focus nearer the lens than the central ones. The lenses used in photography should be comparatively free from this error, and we can very easily determine how far they are so.

If we stop the lens down, and thus only allow a small central cone to pass through the lens, we can adjust our screen so that the image is as sharp as possible, exactly as we did in finding the focal length. Now open the lens to its full aperture and stick a small disc of paper on the mirror opposite the center of the lens, so that only the rays which pass through the margin of the lens are reflected. Focus again. The distance the screen has to be moved from its position when the central rays were focused to its new position measures the magnitude of this error. For purposes of comparison, it should be divided by the focal length of the lens.

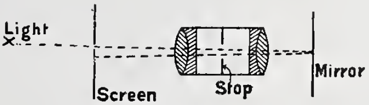


Fig. 10.—Arrangement of apparatus for central image formed by axial rays.

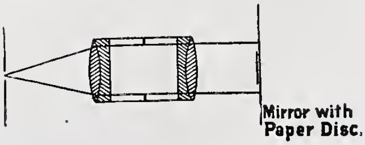


Fig. 11.—Arrangement of apparatus for a central image formed by the marginal rays.

The mirror in each case must be adjusted, so that the image is formed as near the center as possible.

---

* These are in all cases the mean of several readings.

The readings for A were:

Position of screen for axial rays	29.83
Position of screen for marginal rays	29.80
Difference	.03

$$\text{Coefficient of aplanatism} = \frac{\text{Difference}}{\text{Focal length.}}$$

$$= \frac{.03}{14.6} = .0020$$

The corresponding readings for lens B were:

Position of screen for axial rays	18.15
Position of screen for marginal rays	18.19
Difference	.04

$$\text{Coefficient of aplanatism} = \frac{.04}{16.4} = .0024$$

IX.—CHROMATIC ABERRATION.

This error, as far as the visible spectrum extends, can be conveniently measured with this apparatus by interposing a red and then a blue solution between the light and screen. I have used an ammoniated copper solution for the blue and sulphocyanid of iron for the red.

The screen will usually have to be moved to obtain a sharp focus in the two cases, and the distance between the two positions will give a measure of the error. It must be divided by the focal length for purposes of comparison.

It will be further necessary to compare the actinic with the visible focus by actual photography in the camera.

The following readings were taken for lens A:

Position of the screen for red light	29.88
Position of the screen for blue light	29.83
Difference	.05

$$\text{Chromatic red-blue coefficient} = \frac{\text{Difference}}{\text{Focal length}}$$

$$= \frac{.05}{14.6} = .0024$$

For lens B the readings were:

With red light	18.19
With blue light	18.15
Difference	.04

$$\text{Chromatic red-blue coefficient} = \frac{.04}{16.4} = .0024$$

X.—COMPARISON OF THE TWO LENSES.

We see from our readings that the lens B has a much flatter field than A, but it is at the expense of a larger astigmatic coefficient — about four times as large. The aplanatic and chromatic coefficients are practically the same.

All the coefficients as before defined are independent of the scale, and will be the same whether the measurements of the errors and focal lengths are taken in inches or centimeters; provided, of course, that if the error is measured in inches, the focal length is in inches also. All the coefficients will be the same for a series of similar lenses of different focal lengths. That is, if the lenses are all ground to similar curves, and made of similar glasses, the coefficients will be independent of the focal lengths, and if they are really ground exactly, will be identical for all the series. They also enable a comparison of the excellence of the different types of lenses to be readily made, and I think should as much be given as the focal length or the numerical aperture of a micro-objective.

It is hoped that the above simple experiments will enable many of those to whom the errors of lenses have seemed an inaccessible region with a stormy sea of mathematical expressions to be crossed before any harbor could be reached, to feel that from the practical point of view there are no insurmountable difficulties, and that nothing but ordinary common sense is required to understand them.

As also the apparatus involved is of the simplest, there is no reason why every one with a photographic lens should not test it for himself, and so not only learn the particulars of that lens, but at the same time gain a knowledge of the various errors that no amount of reading and study can impart. In no other way I am convinced can the bearing and importance of each individual error be truly appreciated.

If the lens makers would publish the coefficients and a curve showing the curvature of field for each lens sold, a great stride would be made. If the best makers began such a practice other firms would soon be obliged to follow suit.

XI.—IN CONCLUSION.

It may be interesting to add briefly the conditions that underlie the elimination of the several errors:

1. For achromatism, the dispersive power must be proportional to the focal length, each pair of a combination being separately corrected.

2. For a flat field the refractive index must be inversely proportional to the focal length, and, therefore, to the dispersive power. This requires the use of the new Jena glas.

3. For aplanatism, rays parallel to the axis should go through the several lenses at approximately angles of minimum deviation.

4. To eliminate astigmatism, the surface which separates one of the pairs of achromatic lenses should be a convergent one, while that for the other pair should be divergent. This requires one of the pairs to be made of ordinary glasses, and the other of anormal glasses.

5. For orthoscopy (freedom from distortion) the lens must be a symmetrical one.

Carl E. Lemon, Cleveland, Ohio.
CHICAGO SALON.

For a fuller discussion of the errors and their elimination, the new translation by Professor S. P. Thomson of Lummer's "Contributions to Photographic Optics" should be consulted.—*Photography.*

Iowa Photographers' Association convention will be held at Des Moines from April 19 to 21. A very interesting program has been arranged.

OFFICIAL NOTICE No. 2.

To the Photographic Fraternity:

It having reached the ears of several members of the Executive Board of the Photographers' Association of America that the report is going the rounds that there is to be no national convention this year, owing to its being World's Fair year, and your Executive Board having planned for a convention that will far surpass any ever given, as the secretary of said board I wish to emphatically deny such rumors.

Your Executive Board never knew such a word as fail; in fact, we had to ask a back number photographer how to spell the word, and to the end that our coming national convention will so far surpass anything ever given, we have secured the Forest Park University hotel (which is located within a stone's throw of the World's Fair grounds), to take care of our photographic friends, and in which to hold our meetings.

It is the intention of the board that only morning sessions be held, and the afternoons to be given to seeing the fair and visiting the art halls, where we will have capable artists to deliver lectures on the many fine works of art therein.

This alone will be a very instructive feature of the convention and every one will profit immensely by the instructions given.

The greatest national convention ever held will convene in St. Louis during the first week in October, from the 3d to the 8th, inclusive.

This will be just before your holiday work begins and you will have every opportunity to gain new ideas, and the Lord help the fellow that does not try to help himself.

It will be painful for you to have to admit to your artistic patrons that you did not see the works of art at the grandest exhibition of that nature ever held in this country, but by taking in the fair you can also take in the greatest convention and thereby kill the two proverbial birds.

Rates have been secured at the Forest Park University hotel which will be much lower than any rate secured elsewhere, but this rate is for members of the association only.

To secure these rates as well as to secure accommodations in advance for convention week, it will be necessary that you be furnished with a certified receipt from the treasurer, Mr. Frank R. Barrows, 1873 Dorchester avenue, Boston, Massachusetts, showing that you are a member in good standing. Upon receipt of same you can write to Mr. J. J. Grafton, lessee and manager, care Forest Park University hotel, stating when you want to come and that you are a member of the Photographers' Association of America. He will then set aside as many rooms as you will want for that week and same will be at your disposal during the convention week. *Under no other conditions will you be able to secure these accommodations.*

Bear in mind that the Executive Board have promised you the grandest and best convention ever held, and to redeem that promise every member of said board is working night and day to see that same is fulfilled.

Our *official journal* will be a thing of beauty and a joy forever, and woe to the one who fails to receive a copy of same. It will be yours for the asking, if you are in good standing.

There are many things that I would like to say to you this trip, but lack of time and space forbids. However, it is my intention to visit many of the State conventions this year and I will tell you more when I meet you.

With very best regards, I beg to remain,

Geo. G. Holloway,
Secretary P. A. of A., Terre Haute, Indiana.

ILLINOIS PHOTOGRAPHERS' CONVENTION.

The next convention of the Photographers' Association of Illinois will be held at Aurora, May 3, 4 and 5, 1904. Awards are offered in ten different classes, one of which is open to the world. Full particulars on application to the secretary, E. C. Pratt, 85 La Salle street, Aurora, Illinois.

METOL-HYDROQUINONE FOR BROMIDE AND GASLIGHT PAPERS.

While amidol, eikonogen, rodinal, edinol, etc., have been widely advocated for the development of gaslight and of bromid papers, the instructions coming with each package of paper and which evidently represent the choice of the manufacturer are overwhelmingly in favor of a mixture of metol and hydroquinone.

The results obtained with this developer are more reliable and on the whole as perfect as those obtained with any other agent. It is inexpensive to make up; keeps far better than amidol or

Clarence M. Rodgers, CHICAGO SALON. Hartford, Conn.

edinol and works faster than eikonogen or rodinal. Modifications are easily made to suit all brands of papers. The color of the deposit is readily modified to suit the most versatile tastes, and the range of tonalities obtainable is longer than that which can be produced by the use of any other developer. Besides, it is inexpensive and requires but such chemicals as are conveniently obtained anywhere. In spite of all these advantages there is a shadow side to this excellent developer. The very quality of being simple in its composition and inexpensive has led many manufacturers and especially some of the chemical firms who prepare M. Q. tubes for jobbers and retail dealers, to alter its normal proportion beyond all measure, sacrificing the quality of the results for the sake of lowering prices. The competition and cutting down business have been very keen in that line and as a result the market is being swept by a host of M. Q. tubes, nameless mixtures irrationally compounded and which have none of the qualities referred to a moment ago.

For a normal metol-hydroquinone developer for bromid paper the hydroquinone should not be in excess; and this is precisely the case with the cheaper M. Q. tubes. As hydroquinone is much less expensive than metol the manufacturers decrease the amount of the latter and increase that of the former beyond all proportions. The writer has analyzed tubes of that kind where the proportion of hydroquinone to metol was as high as ten to one (even twelve to one in one case.)

Is it to be wondered at if under those conditions the results are not satisfactory?

Except for special purposes (colored prints) the amount of hydroquinone should never exceed that of the metol used. Half of each gives the most powerful and fastest developer. It is evident, however, that to give the best results these proportions will have to be slightly modified to suit the brand of paper adopted. With most of them twice as much of metol as of hydroquinone will give by far the finest prints. The following developer is excellent for nearly all brands of paper on the market:

A.

Metol	50 grains
Hydroquinone	25 grains
Sulphite soda, anhydrous	½ ounce
Or crystal	1 ounce
Water, up to	20 ounces

B.

Sodium carbonate crystals	½ ounce
Potassium bromid	20 to 30 grains
Water, up to	20 ounces

Take equal quantities of A and B for bromid paper.

For gaslight papers reduce the amount of water one-half and the amount of bromid of potassium as much as possible until just enough is left to prevent fogging. It is unfortunately not possible to specify the exact quantity, as various brands of paper are vastly different in that respect and as besides that amount depends also largely on the age of the paper, its state of conservation, the quality of the water employed and many other minor circumstances which it is impossible to enumerate and consider here singly. For certain papers the amount of sal soda had also better be increased to one ounce. For carbon velox, for instance, the formula modified as follows will produce results that will leave nothing to be desired:

A.

Metol	50 grains
Hydroquinone	25 grains
Sulphite soda, anhydrous	½ ounce
Or crystal	1 ounce
Water, up to	10 ounces

B.

Sodium carbonate crystals	1 ounce
Potassium bromid	1 grain
Water, up to	10 ounces

Take equal parts of "A" and "B" and add as much of a ten per cent solution of potassium bromid as is necessary to keep the whites clear, or as is wanted to alter (with increased development) the color of the deposit.

It is sometimes advisable when particularly soft gradation, delicacy in the high lights and transparency in the shadows are desired, or when hard contrasty negatives are met with, to still further reduce the hydroquinone or even to dominate it altogether. Again metol alone in bad cases or over or under exposure will permit of forcing development to a degree of which an adjunctive of hydroquinone will not allow. Many careful workers will thus find that besides the developer given previously it is a good plan to have on the shelf a single solution metol developer which will prove very handy should occasion require. The formula runs thus:

Metol	50 grains
Sodium sulphite, anhydrous	½ ounce
Or crystal	1 ounce
Sodium carbonate crystals	1 ounce
Potassium bromid	2 to 4 grains
Water, up to	20 ounces

But for all ordinary purposes and for general use in the printing room we do not think anything can beat the formulæ given previously.

When strongly colored results are wanted, up to red chalk with the slower papers, the hydroquinone is then (but then only) slightly increased and the amount of sulphite diminished. Our formula would, for instance, become:

A.

	No. 1.	No. 2.
Hydroquinone	60 grains or	50 grains
Metol	90 grains or	25 grains
Soda sulphite, anhydrous	100 grains or	100 grains
Water	10 ounces	10 ounces

B.

Sodium carbonate crystals	1 ounce
Potassium bromid	5 to 10 grains
Water	10 ounces

A No. 1 contains the largest amount of hydroquinone desirable, and, we repeat it, only in such cases when decided colored results are aimed at. Hydroquinone has, unfortunately, the tendency to fill up the detail in the shadows of the prints, and while it is desirable to have some in an M. Q. developer to give body to the print, too much of it will cause the loss of their transparency, so desirable a quality and so easily obtainable by a sufficient amount of metol in the developer.

We feel confident that those of our readers who will kindly give the preceding formulæ a serious trial will find it difficult afterward to feel satisfied with some of the ordinary M. Q. compounds now on the market.

A. K. Boursault.

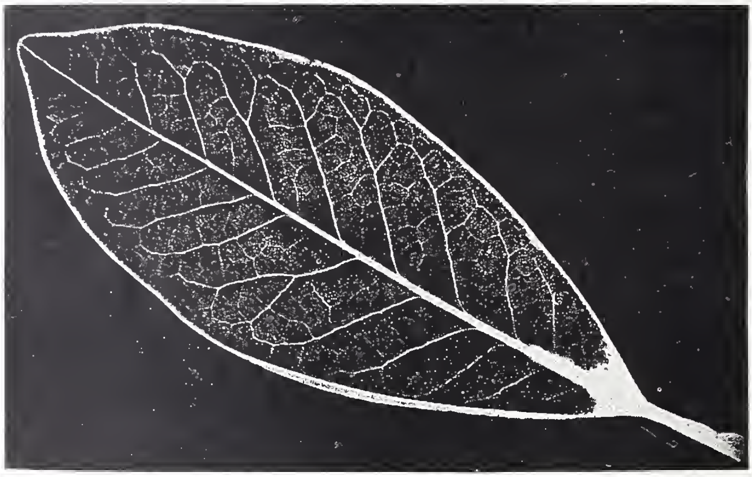
SOME BROMID TONING METHODS.

Major R. E. Johnson, in the course of a paper which he read before the Hull Photographic Society, detailed pretty nearly all the known methods of toning bromid prints and enlargements. Among the lesser known processes, he referred to the employment of Schlippe's salt, or sodium thio-antimoniate, by the use of which bromid prints may be toned to a Bartolozzi red. The prints for this process must be first bleached in: Potassium bichromate, 20 grains; hydrochloric acid, 2 drams; water, 10 ounces. They are washed until free from all yellow stains, and then placed in a bath made up of Schlippe's salt — 15 grains to the ounce of water. As this is an intensifying process, the prints to be toned must be fairly light. It is also very necessary in this process that all the hypo should be removed from the print before toning. A very brilliant blue tone, and one that is quite permanent, may easily be obtained by the following process: To a ten per cent solution of ferric chlorid add a ten per cent solution of potassium ferricyanid until no more precipitate is formed; then dissolve this precipitate by adding potassium oxalate in a ten per cent solution, and when clear a deep green solution will result. Immerse the prints in this until the required tone is obtained. Then well wash and clear high lights by immersing in a two per cent hydrochloric acid solution. A violet tinge can be imparted by immersing in a one per cent solution of ammonia after clearing. Bromid prints may be toned to a brown color (very similar to that obtained by the hot alum-hypo process) by immersion in a bath of ten grains potassium sulphid (liver of sulphur) to the ounce of water. The action of this bath is very slow; it works better slightly warmed, and the sulphid being a very unstable salt, must be fresh, or no toning action will take place. A slight toning action can be obtained by first bleaching the prints in a saturated solution of mercuric chlorid, then thoroughly washing them, and then immersing them in a very weak — one in a thousand — bath of hypo, or a rather stronger sodium sulphite solution. Slight intensification also occurs when this process is employed, so that it should be specially suitable for weak prints. F.

PREPARING AND PHOTOGRAPHING SKELETON LEAVES.

> "Autumn's shining gold
> Hangs on the woods, and summer's brilliant bloom
> Is fading fast, as winter, stern and cold,
> Comes from the northern home of cloud and gloom."

This is alas! only too true, the "sere and yellow leaf" is everywhere present, but for our special purpose is just what we desire.



Almost everything, animate and inanimate, is fair game for the camera, and there is very little, if anything, under the sun, to which the photographic lens is not directed.

Leaves in all their variety are selected in their summer dress of beauty, but how many workers think of them in autumn's fall, in their decay? Even then they are no less beautiful, and in many instances, more so. The framework upon which the leaf is built is marvelous; it is a picture of grace and beauty, and will form subjects for the choicest work.

Skeleton leaves can be photographed with or without a camera, as the following will show.

First of all, leaves must be selected, and then prepared; almost any kind may be chosen; those of the india-rubber plant are the greatest favorites; next come ivy and holly; laurel leaves, lime, plane and sycamore will all lend themselves very readily to the work.

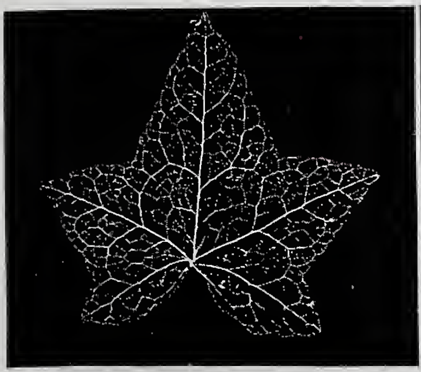
The ivy leaf has a leathery skin on each side; between these will be found the skeleton embedded in pulp, which has to be got rid of by macerating, so that the skeleton only may be left.

The old-fashioned way of working was to place the leaves in a pan, then cover with water and allow them to remain for weeks. This process is much too slow for these days; what is to be done must be done quickly or not at all.

Instead of waiting weeks, leaves can be macerated in a few hours — by boiling them carefully for a few minutes, then transfer them to a strong solution of permanganate of potash, and gently heat. In a short time the tissues may be removed with a brush. A few drops of muriatic acid will hasten the work when the leaves contain tannin.

The oak leaf is one of this kind, and for this reason the acid should be used.

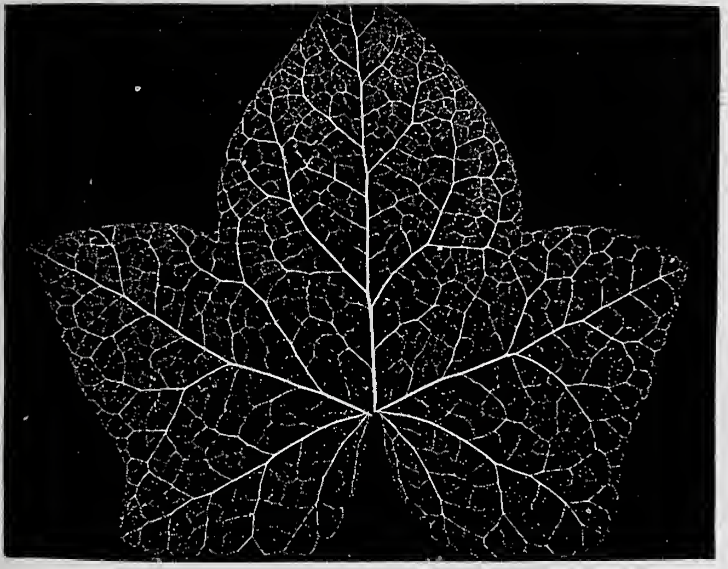
For bleaching the skeletons, chlorid of lime must be employed, well mixed with water. Allow the lime to settle, and when clear, the water must be poured off for use. Place the skeletons carefully in the lime water and allow them to remain until they appear white.



The solution must not be too strong, or the delicate fibers will be destroyed.

Not only can leaves be thus treated, but fruits also.

These are by no means common, and when well done are simply unique. Want of space will only permit of one example being given. Take a pear of a soft nature, pare it without squeezing or injuring the crown or stalk, place it in a saucepan containing rainwater, and allow it to boil until soft, then place it in cold water, allowing it to remain for a few minutes, then remove it, holding it by the stalk, and with the finger and thumb rub off the pulp as much as possible; the pulp adhering to the core can be removed by using a long pin, washing at intervals to remove the dislodged fragments.



For photographing skeleton leaves it is better to select those of a moderate size. Velox or bromid paper should be used, first placing in the printing frame a piece of plain glass upon which the skeleton should be laid, over which lay the printing paper, then give a short exposure to any artificial light, and develop as usual. This, of course, is, as it were, a negative, but it presents the object *white* — the natural appearance of the skeleton.

Should the leaves be too large for this process, fix the skeleton upon black paper (that known as needle paper is the best) and photograph in the usual way by means of the camera.

Skeleton leaves make charming subjects, as will be seen by our illustrations, which were all done by the writer from start to finish.—*The Amateur Photographer.* G. D.

ASSISTANT PHOTOGRAPHER, DEPARTMENT OF AGRICULTURE.

The Department of Agriculture announces an examination for assistant photographer to be held on April 13, 1904. The salary is $840 per annum. The subjects are copying and enlarging, lantern slides, use of Velox and similar papers, glossy papers. The examination centers are in every State of the Union and full particulars can be had on application to any large post-office in the country.

A SIMPLE METHOD FOR TESTING THE REGISTER OF A PLATE.

It very often happens, even with so-called high-class cameras, that when the plate is in position it does not register the same as the focusing screen. Anyhow, it is always wise to test it, and prove to one's own satisfaction that the two do coincide.

Take a perfectly flat strip of well-seasoned wood, slightly longer than the diagonal of the frame holding the ground glass screen. Through the center of this drive a screw, taking care to first make a hole, and so avoid splitting the strip of wood; the point of the screw should project just far enough to touch the ground glass side of the screen when the strip rests on two sides of the frame. Then by moving this about, we can readily see whether any parts of the screen are uneven. If this be found to be the case, the glass should be removed, and the rebate of the frame either pared down where needful, or the lower portions raised by inserting paper or card of the requisite thickness.

Another point requiring attention is to see that the plate, when tightly pressed against the rebate of the dark slide, is the same distance from the lens as is the focusing screen. By inserting a couple of old negatives in the slide, drawing out the shutters, and testing with the gauge, we see directly whether the depth coincides with that of the focusing screen. It will generally be found that the slides all agree, so that any alteration is best made in the screen.

Arthur W. Wilde, Philadelphia, Pa.

CHICAGO SALON.

In the case of cheap slides we usually find the plates merely separated by a piece of black card, which seldom suffices to take up the whole available space, so that the plates are not pressed sufficiently firmly against the rebate of the slide. A metal division plate furnished with springs may be substituted, or, if the card is stiff enough, a couple of pieces of weak clock spring can be riveted, one on each side, to the center of the card. The spring is too hard in temper to admit of holes being drilled through it, but it can be easily softened by heating the necessary portion to a red heat and allowing it to cool gradually.

This want of register will often account for a carefully focused plate developing with only one portion in accurate focus. In the case of landscapes it is not perhaps material, but with small work, particularly hand camera exposures, where the lens is used at full aperture, the effect may be ruinous.—*The Amateur Photographer.*

HERMANN LEA.

NEW CAMERA CLUB IN TROY, N. Y.

Troy readers would do well to get in touch with Mr. A. A. McNaughton, *Budget* office, who is taking an active part in the organization of this new camera club.

TWO LANTERN-SLIDE SUGGESTIONS.

To overcome the difficulty many experience in binding lantern slides with the short lengths of strip so generally used, sixpence may be well spent at the ironmonger's in the purchase of a dozen "American" spring clothes-pegs. Get half a dozen slides, masks and coverglasses ready for binding; put a clothespeg at the top and bottom of each; they will hold slide, mask and coverglass firmly together while the side strips are put on. When the half dozen are thus furnished, go back to the first slide and put its two pegs on the sides, while the top and bottom strips are put on.

The Photo-Beacon Exposure Tables are guaranteed correct. Price, 25 cents.

EDITORIAL TABLE.

THE INFALLIBLE EXPOSURE METER COMPANY, 237 South Fourth street, Brooklyn, New York, announce that very shortly they will receive from their English house a stock of Shutter Speed Testers and Silver Gem Negative Meters. These have been put in the English market very recently and look like good things; in fact, we have ordered them for our own use. The prices are $1.50 and $3.50, respectively.

THE ILLINOIS COLLEGE OF PHOTOGRAPHY has by its age and the character of its students proved itself to be an undoubted success. Every year it has taken a stronger position in its influence upon the profession, and the outlook is that in but a few more years to come it will be an essential factor in the photographic world. Emboldened by its success, Mr. Bissell, the founder of this institution, has made another forward movement by establishing the Bissell School of Photoengraving. The prospectus of this latest institution has just come to hand, and a careful reading of it shows conclusively that it is fully equipped with all the latest appliances, while the teachers are capable of giving instruction both in theoretical principles and the practical application thereof. The Bissell School of Photoengraving is located at Effingham, Illinois.

THE PHOTO-BEACON.
AN ILLUSTRATED PHOTOGRAPHIC JOURNAL
Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All remittances should be sent by postoffice money order, draft or registered letter to the order of THE PHOTO-BEACON COMPANY.

Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

To insure insertion in any particular number, copy for advertisements must be received not later than the 20th of the month preceding.

All communications relating to THE PHOTO-BEACON should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621 Broadway, New York.

Jos. R Iglick, "The Paths of Glory lead but to the Grave." Rochester, N. Y.

FIRST PRIZE.

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 805 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XVI. MAY, 1904. No. 5.

ON DEVELOPMENT.

The first time I ever stood on my feet to make a few remarks to photographers was at the M. A. Seed Dry Plate Company's factory, in 1894, when the national convention was held at St. Louis. The subject was development, the greatest standby in the photographic world for the literary or oratorical hack. Mr. Watkins and I had been in touch for a few years and he had kindly kept me posted as to the results of his experiments, so I was in rather a skeptical frame of mind as to the wonderful achievements said to be possible by tentative development. I remember I jolted the crowd, who had been splitting hairs over the importance of a fraction of a grain of pyro in each ounce of solution, by asking if any one could explain to me how Moreno, who used a saturated solution of sulphite, sal soda and pyro, got similar negatives to those got by one gentleman present who used only one quarter of a grain of pyro to the ounce.

Some years ago a photographer wrote to me asking for my help in a serious trouble then impending. His doctor had ordered him to keep the house for at least three weeks, and his assistant was absolutely ignorant of darkroom work, while all he knew of posing consisted of what he had seen happen while occasionally helping his employer. Here was a condition, not a theory; what could he do about it?

I need not say anything about the posing instructions I gave the assistant, but I advised that he develop one plate for three minutes, fix it and take it round to his employer for criticism. If too thin, give the next one longer time; if too dense, give it shorter, and so proceed until the right kind of a negative was got, and then develop every plate by the watch.

The photographer told me afterward that my letter gave him no comfort, for he had been in the habit of spending about four hours in the darkroom every night manipulating his developer so as to make the most of each plate. When he got back to his business he looked over his assistant's negatives with anxiety, and it was utter humiliation to him to find that this greenhorn, working mechanically, had produced better negatives than he had been able to do. Need I say that his four hours in the darkroom were speedily reduced to one?

About the beginning of February the same photographer came into my office to see what I knew about tank development. Offhand I suggested that glycin was pretty good for this, and then he told me a curious story. Early in November, happening to be in a large gallery, the proprietor, pointing to a lot of bottles on a shelf, asked him what he would give for the lot. He bid a dollar without examination and got the goods. There happened to be a pound of glycin in the collection, and it struck him here was a chance to try tank development at a low cost. He had no formula but he began by making up the glycin as if it were pyro, poured it into a big fixing tank he had that had accommodation for two dozen plates and added enough water to fill the vessel. The bulk happened to be about two gallons, so he kept the solution in a two-gallon jug. For ten weeks he had used this bath, pouring it into the tank each day, and back into the jug after development was finished, making up the loss by addition of pure water. At first the bath took twenty minutes to do the work, but had gradually lengthened to twenty-five minutes, and his problem was, how long would it remain in business. He was more than satisfied with the quality of his output.

At first his negatives were liable to spots, due to the formation of air bells, and he had cut his fingers badly while lifting the plates up and down to break the bubbles. Then he tried swilling the solution over the plates and found that got rid of his trouble. So now his procedure is, first to set the plates upright in the tank, then empty the contents of the jug over the plates, swinging it backward and forward all the while, so that the fluid will hit the surface of the plates, then he attends to something else for twenty-five minutes. At the end of that time he puts the plates in the fixing bath, pours back the developer into the jug, making up the loss with clean water and the trick is done.

Moral: No man need stay for hours in a darkroom every night if he knows enough of what is and nothing of what is not. We are all cursed by knowing a lot of things that are not so.

F. Dundas Todd.

PICTORIAL COMPETITION NO. 71.

The snow-picture competition is always popular, and the one that just closed was, I am certain, the best, both in quality and quantity, in all my experience. When the judges meet, the first thing they do is to throw out such prints as they consider have no possible chance, and, ordinarily, this means about seventy-five per cent of those submitted, but in this particular competition it fell below twenty-five per cent, much to the surprise of everybody. More careful weeding takes place until about a dozen remain, it being understood that this includes all those deserving of special mention. The intention is to pitch even this rather high, and the reader knows how sparingly the judges give even this kind of recognition. They are not trying to make friends, but to make artists.

The following are the awards this month:

First Prize.— Joseph R. Iglick, 29 Asbury street, Rochester, New York.

Second Prize.— J. H. Field, Berlin, Wisconsin.

Third Prize.— S. S. Lloyd, 827 Prospect avenue, Buffalo, New York.

Honorable Mention. — C. Macnamara, C. Bell, D. H. Brookins, J. Chislett, G. G. Keller, A. S. Goss, A. W. Engel, G. B. Fallis, W. C. A. Smith, C. H. Lovewell.

PARTICULARS OF WINNING PICTURES.

First Prize.— Taken in January, late in the afternoon, on Cramer plate with Stop No. 8; snap shot; printed on Willis & Clement's platinotype paper.

Second Prize.— Taken just after sunrise, with single lens, wide-open exposure ½ second, on Cramer double-coated, medium Isochromatic plate; printed on W. & C. platinotype paper.

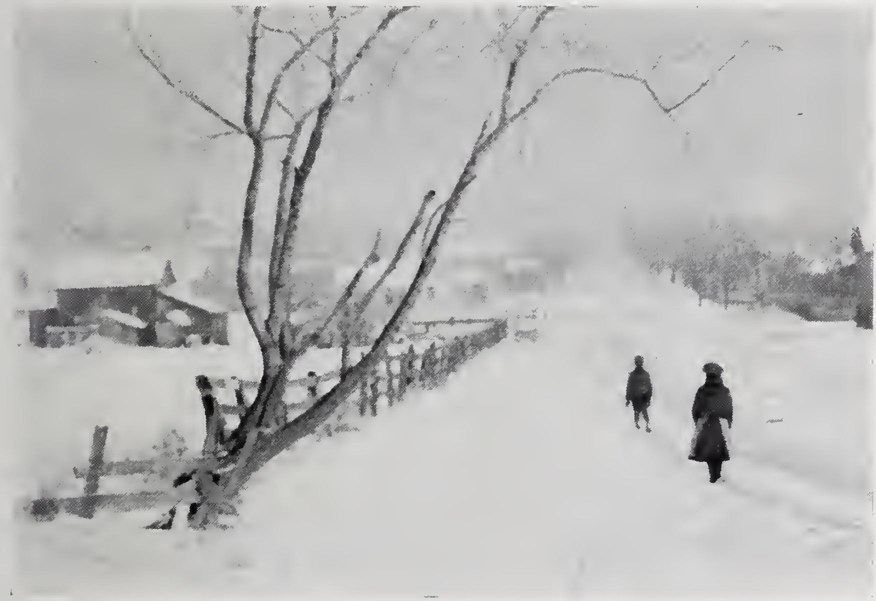
Third Prize.— Made in March in bright, diffused light, on Cramer medium Isoplate, with open aperture, exposure 1-5 second; printed on carbon.

CRITICISM OF WINNING PICTURES.

The first prize picture has a mission over and above rendering pictorially certain facts of nature. It aims to emphasize the great truth that all our desires and ambitions, our hopes and fears, all find one common fate — in the grave. Now, the sun often shines brightly, trees flourish luxuriantly, flowers bloom sweetly and birds sing cheerily in a graveyard, but, nevertheless, we never associate these with our mental picture of such a place. No; there it is always dull, the tones are gray and the sun is always setting. It is a place of melancholy and so our minds give it always the appropriate setting. It is because he has caught the proper spirit of the scene the first prize falls to Mr. Iglick. The technical features may be dismissed in but a few words. One sees at a glance how all the lines in the picture converge to the one vanishing point in the setting sun — the suggestion of the end. The massing is very simple — a foreground of snow divided by a pathway; two groups of tombstones, one bigger than the other and arranged differently; a low-toned sky diversified by a few streaks of light.

To me the outstanding feature of the second-prize picture is a purely technical one, namely, the fine rendering of detail in the tree trunk and in the children's clothes. I do not think I ever saw this feature so well handled before, and I may add that it is much more marked in another print submitted by Mr. Field, where a large tree trunk in the immediate foreground is perfect in detail and gradation. The man who can do this is no mean workman. In both the first prize and this picture I would like to draw attention to the atmospheric effect, that is to say, the way the distant points in the view recede from the foreground. We have foreground, middle distance and distance — too many photographers have only two, sometimes only one of these. My readers should be able to see the spacing and tone quality for themselves.

The third-prize picture won on its tone quality principally. It is a very good example of the effect of printing process, for a companion print on mat paper would not have received even mention. This fine tone gives the three distances already referred to and converts an ordinary photograph into a picture.



J. H. Field, Berlin, Wis.

SECOND PRIZE.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else*. The outside of the package, in addition to our address, may bear that of sender. Accompanying a letter or postcard should be sent us, giving full particulars of date, light, plate, stop

and exposure given; also the printing process.

2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.

3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.
Second—Books to the value of $2.50.
Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

FUTURE COMPETITIONS.

Competition No. 73 — Branch of a tree without leaves, with special consideration of decorative effect. Closes May 31.

Competition No. 74 — Domestic animals. Closes June 30.

Competition No. 75—Genre pictures, or pictures that tell a story. Closes July 31.

Competition No. 76 — Branch of a tree with leaves, with special consideration of decorative effect. Closes August 31.

Competition No. 77 —" At Home" portraiture, that is, portraits not made in a studio. Closes September 30.

Competition No. 78 — Snap-shot pictures. Closes October 31.

Competition No. 79 — Landscapes. Closes November 30.

Competition No. 80 — Flower pictures. Closes December 31.

THE OFFICE BOY ON THE PRIZE PICTURES.

The other day the boss got lippy, and just to show him that he was not such a muchness I says to him, "Any chump could do your little stunt with the prize pictures every month." He says, "All right, go ahead and do it. I'll give you the afternoon and you can write them up."

So here I am, with one of his cigars in my face and my feet on his desk, talking the arm off the stenographer. This editor business certainly is a cinch with handles on so you can get a good grip. All you have to do is to sit at a desk with a big pair of shears, a blue pencil and a pot of glue and cut the fellow's stuff down so it fits the space, and when some fellow tries to get smart in a letter you write a sympathetic one to his folks about his mental condition, etc.

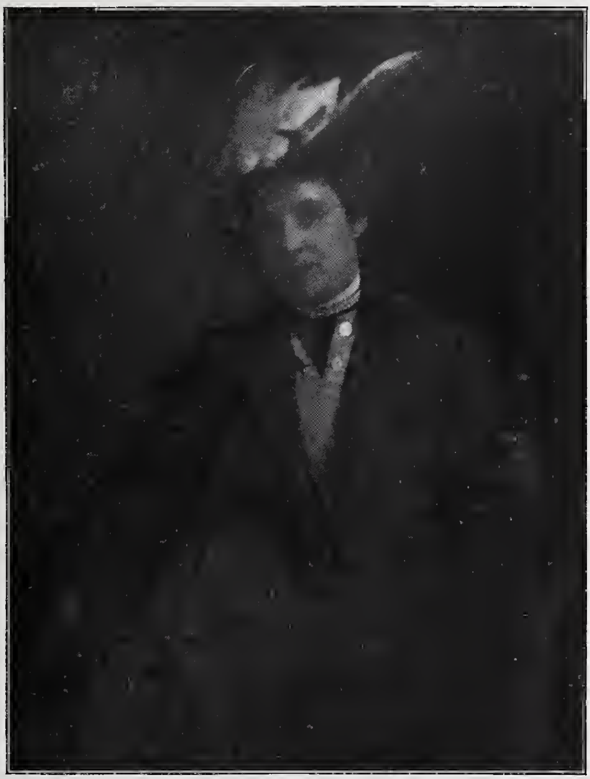
Now, to get busy on the first four pictures to come under the wire. The blue ribboner is a plum, all right. It's a little bit gloomy, but it's real. The snow looks as if you'd like to step up and make a snowball for your old enemy. It looks just like it does in Chicago three days after the storm. The guy that turned out this one certainly made it to fit the title.

The runner-up is a neat little scene in the country. You can see the kids going to school, and, although the fellow ought to be a gent and wait for his lady friend, he probably has a sore head and is getting square with her for walking home with Johnny Jones last night. The fence looks fine, and you can almost hear the bark on the trees. The houses and barns are plain and easy to see without standing out like the boss's nose. The picture has a center of focus (I heard the boss say this) which attracts the eye and prevents it from slopping over the edges.

The third reminds me of the old swimmin' hole. Looks kind of woozy — like a Photo-Secesh job. It is a dead ringer of a *Chicago-American* picture of the spot where the robbers made their last stand, only they forgot the cross where the leader of the gang fell, and the place where Policeman Jones was shot ain't shown. It is a pretty little bunch of woods. The water looks like a sample from the Chicago avenue pumping station when the "Unfit-to-drink" sign is out. A lalapalooza of a place for mosquitoes, microbes and pictures a la Photo-Secesh. The boss says it has all kinds of atmosphere. I think it does look kind of thick — like Chicago after the fire. You could cut out chunks of it with a knife.

The honorable mention hits me about right. Those low-ceiling effects have me on the run. I like mine cut long and narrow. It's familiar and comfortable, except the snow. I can almost see myself sporting down the shady lane with her looking like a dry-goods store model with the best gown in the store put on for Sunday. I tipped the boss the wink to let this one run inside the money, but he wouldn't do it. I haven't found a boss yet who would listen to the advice I give them, and I've tried six in the last three months. I tell 'em what to do, they get lippy, and we part for keeps. This scene is pretty slick. You can see 'way back into it — far enough to see a cop if he happens to be on your trail. On the dead, I think this piece ought to have got a second or at least third, but the boss is stubborn and couldn't see it my way.

Now, that'll be about all from me. I've changed my mind about this editor job. It's too much work keeping enough air hot to keep the bunch on the run. I guess I'm satisfied with life as THE OFFICE BOY.



FIRST PRIZE.

In the proof this is a miserable reproduction of a very fine portrait, and it will doubtless print just as badly. The fine gradation was secured by a platinum print toned sepia. An untoned platinum proof was at our disposal, but did not show the fine quality, and hence the sepia one was chosen as the lesser of two evils. It is a great pity that the half-tone process of reproduction fails to show readers the really best things done by photography.

PROFESSIONAL PORTRAIT COMPETITION NO. 4.

Thirty prints were submitted in this competition, proof that the interest in them among the members of the fraternity is increasing fast. Need I refer to the dozens of "funny letters" I have received during the past month from photographers, who did not agree with my decision? I am glad to get letters, of course, all kinds of letters, but let me just gently say this, that I prefer the kind that state why the reader does not agree with me, and so far I have failed to receive a single letter of this kind. So, ye kickers, kick all you want, but give reasons for your assertions, so that I may know if you have any acquaintance with the elementary principles of art.

Let it be distinctly understood that this is a limited art competition, limited in this, that the pictures sent in shall have been taken in the ordinary course of business. It is neither a focusing, exposing, developing, printing nor mounting competition. When a photographer tells me he could not sell these pictures to *his* customers, he proves nothing beyond the fact that he has a certain kind of a customer. If we were to judge by this standard, I would have to ask each competitor how many prints he had sold from the negative and then award the prize to the one who had sold the most. All those who want this kind of judging please say so. Not one, I fancy. One of the most artistic photographers in the profession to-day turns out very ordinary work to his customers, simply because they will not accept anything else. He is in business for a living and sells the kind of goods that brings in the dollars, just as everybody in business has to do. But he is not foolish enough to humbug himself into the belief that his bread and butter work is artistic, as so many photographers do.

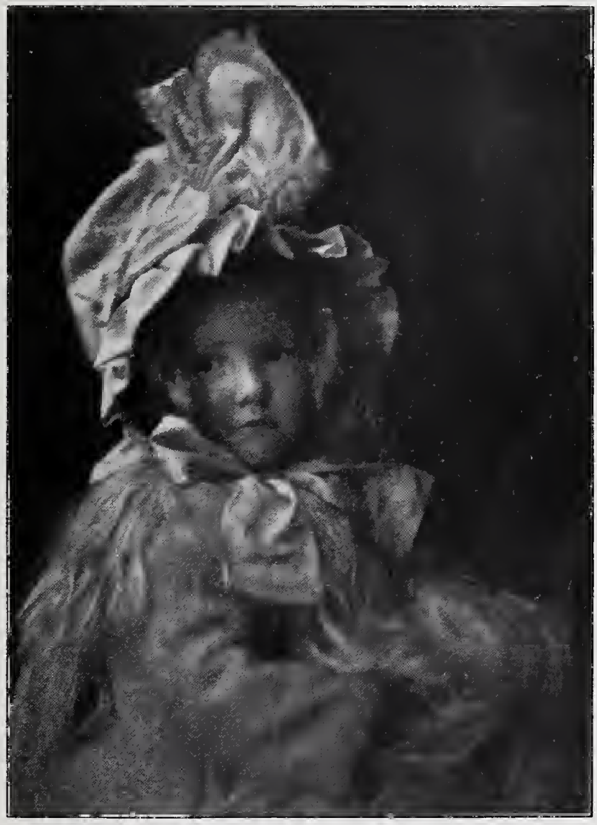
No, Mr. Photographer, the purpose of these competitions is not to compliment you on your technical skill but to emphasize the art side of your business in order to educate your taste that you may have more pleasure in your work and be able to make really pictorial work for the rare customer that can appreciate such. Above all, please remember you have in the past set up false gods for your patrons and must pay the penalty. You praised the merits of high gloss for many long years, then you had to back water, eat all your past words and praise mat surface. Once again you are at the parting of the ways, and the very things you praised most highly in your work you will soon be called on to condemn. The demand for pictorial work is increasing, the only big money in the business to-day lies in that line.

Out on the West Side, of Chicago, there is an Italian colony and once in a while one of my readers regales me with his experiences. He is very witty and it takes my sides a full day to recover the soreness that comes from laughing over his stories. A regulation Italian portrait consists of a newly married couple standing side by side, the husband on the right, the blushing bride on the left. The chief purpose of the picture is to show the relatives in sunny Italy how much wealth has been acquired in Chicago, and so the following articles are indispensable. For the bride a big bouquet of flowers, a gaudy finger ring, a bracelet or two, a long chain and a big brooch. For the bridegroom a fat watch chain, a diamond in the shirt front, a big finger ring and a cigar. The bride stands left foot in front, holding the bouquet of flowers in her left hand, and with the right arm through that of the husband. He has the right foot forward, his coat thrown open to show the jewelry, while his right hand holds the cigar. The photographer must show all the articles enumerated, also five fingers on each hand, two eyes, two ears and one mouth on each head, as proof positive that no unfortunate accident has occurred.

This is not art, it is business, but the photographer knows it for exactly what it is. In these competitions the idea is to exhibit to photographers the most artistic work that photography as a business can stand. The quality of the work sent in for this competition was decidedly ahead of that previously contributed. The most interesting feature was the decided advance made by some of the competitors, for already some men have evidently made up their mind that they intend being in the swim every month. It simply delights me to see how, from no arrangement at all, certain men have seized hold of the great ideas of spacing, massing and tone. Their efforts are necessarily crude, but they now have a new point of view in their work, so that it is only a question of time when they will do instinctively what they now do laboriously.

Years ago in the conventions my old friend James Inglis used, in his big way, to bowl over half a hundred little quibblers in one fell swoop by asking them to stand back about twenty feet from the print under discussion and see what they could make of it. On applying this test all would have to admit that the average portrait looked just like a postage stamp stuck on a piece of paper, whereas a well-lit face and figure, some of cabinet size, would be recognizable at a distance of from twenty to forty feet.

The fact that a picture will "carry" does not, of course, prove that it is consequently artistic, but it is one of the tests of pictorial quality. A small print is intended to be viewed in the hand, but a large print is meant to be viewed from a considerable distance, and here is one of the difficulties that attend reproduction in a magazine, where the space is necessarily limited. I want to emphasize this point because the first-prize picture is an 8 by 10 that looks rather ordinary in the hand, but when hung on the wall and viewed from a distance of about six feet it possesses all the qualities described.



SECOND PRIZE.

The prize winner in the previous competitions still holds the fort, even though many of my critical correspondents do think my decisions are unsound. The spacing of his print is better than that of any other, the masses are more varied in size and shape, the light and shade in each mass is of fine quality, while the one mass blends into the other with fine delicacy. The lines of the figure run agreeably, and, to crown the whole, everywhere one feels there is a decided space between the figure and the background. In a nutshell, these are some of the important things that count in judging the pictorial value of a print, and it is the lack of these that places other pictures in a lower grade.

The second-prize picture is by a photographer in one of our Southern States. It comes more up to the ideal of the average individual than does the first-prize picture. It has fairly good spacing, fine gradation all through, but the background in many places, especially to the left of the bonnet, does not blend well with the figure — the outline is too sharp — therefore there is not that feeling of atmosphere behind the sitter.

The third-prize picture is a bit of splendid technical work. A strong, vigorous man is here represented as such. The lighting on the face is fine, bringing out every detail of the sitter's character. So much for the good points. I do not like the equal spaces on each side of the head, for, in the average portrait, there should be more space in front of the face than behind. Secondly, I think the background is not suitable, because nearly everywhere the figure silhouettes sharply against it instead of blending into it. This is due to the dark part of the background being against the light part of the head, while the light part of the background is against the dark of the face. There is just as much art in selecting the background as there is in lighting the face. Finally, notice how the head "stands out," when it ought to "stand back." Compare with the first-prize picture in this respect.

HONORABLE MENTION.

Mitchell. A dainty bit of line and tone work, showing you have decided natural taste. The pose is too formal for a child, where laughter and irresponsibility should be the keynote.

Mott. Your tone values are excellent. Your posing is not nearly so good as last month. Please note how every line of clothes and head is perpendicular.

Bourghaltzer. A splendid bit of lighting and technical skill, but the girl is too old to play the part, her age too nearly approximates the real thing.

Leonard. The lighting of head and face is simply superb, the best you ever did. You had the camera too high and so jammed the sitter's head into his shoulders, so he has the appearance of being without a neck. The beard and right arm are in one straight line, thus marring the composition. Line is your weakest point.

Leary. Too much fur. The figure is the important feature, not the trappings. The introduction of the little suggestion of a frame in the upper left corner is good.

Lovell. Lines of mother and baby are good, but the background is all confusion. Please do not use the vignetter in front of the lens.

Ward. This is a capital portrait ruined by one bad feature that photographers seldom pay heed to. In many faces one side is shorter than the other, so that the eyebrows seem to run down and the mouth up on that side. In taking such a face, unless there be other strong reasons, the narrow side of the face should be away from the lens, so that the lines may run in harmony with the laws of perspective. In this portrait the narrow side is toward the lens, hence the retiring lines diverge instead of converge, as they should.

Green. A free and easy pose, but please note the symmetrical arrangement of right arm, leg and chair back. You are a fine workman, have good eye for lighting and tone, but your lines are very poor.

Borry. Too much light all round.

Roshon. Why in thunder did you have half of that ugly, absurd chair in the picture?

Robson. If you forgot you had that chair and palm, you would gain a lot.

ALSO RAN.

Cobb. Underexposed.

Z. (Iowa). You have jumped the track for sure, but landed clean in the ditch. The highest light is on the lip, and the spot looks like a pimple.

Z. (Ohio). You need elementary lessons in composition and lighting.

Ferris. Very fine tone quality, but all the principal lines run parallel to each other; the spacing is weak.

Pleas. Your negative is either fogged or you have toned the quality out of the print. The arrangement of figure is too symmetrical.

RULES.

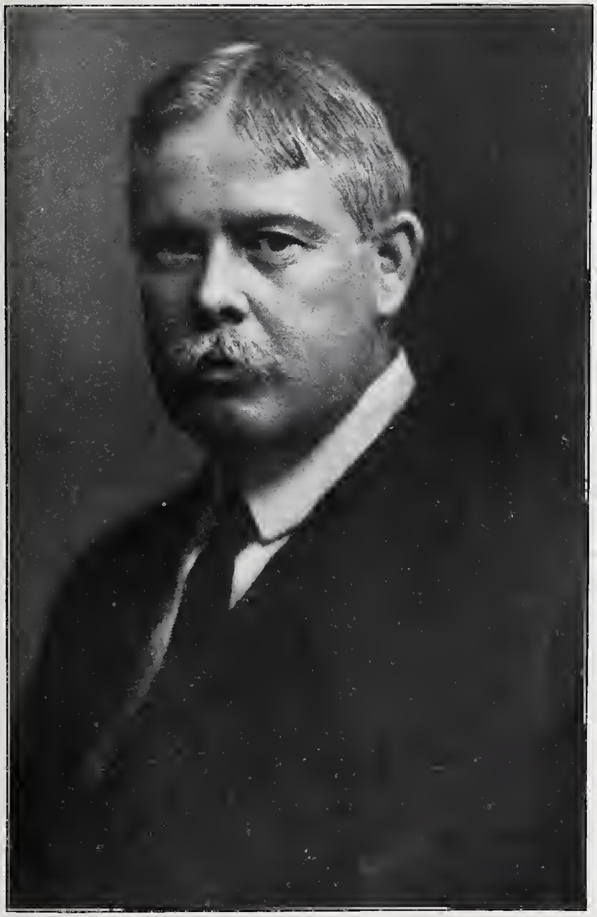
1. Only one print to be submitted in any one month, and this must be from a negative made in the ordinary course of business within sixty days of the date it was mailed.

2. The pictures will be judged on the first day of each month, and all prints received prior to that date will be included.

3. Requests for private criticism, accompanied by fee of $1, may be sent along with the print and will be answered after the judging is over.

4. Mark outside of package with the words "Portrait Competition."

5. Prints are not returnable.



THIRD PRIZE.

SODIUM SULPHITE.

BY PHIL M. RILEY

(Of the Boston Correspondence School of Photography).

Next to sodium hyposulphite, sodium sulphite is the most used of photographic chemicals. It is found in developers, fixing baths, reducers, intensifiers and nearly every chemical solution known to the craft. Notwithstanding its very common use, it is a substance not fully understood by many who are earnest workers. Sodium sulphite is sold in both the crystallized and anhydrous form. The difference between them is that the anhydrous salt is free from all water of crystallization. One ounce of it is equal to two ounces of crystals. The crystallized salt has the formula $Na_2SO_3, 7H_2O$; the anhydrous salt lacks the water of crystallization and has the formula Na_2SO_3.

Sodium sulphite and its solution have a great affinity for oxygen, and therefore should be kept in well-stoppered bottles to prevent decomposition. There seems to be no difference between the crystallized and anhydrous salt in solution, but in the solid state the crystals will not keep in condition so long as the dry salt. Great care should always be taken to use only the clear crystals. A white powdery coating on the crystals is the result of long keeping or poor manufacture. The deposit is sodium sulphate (Na_2SO_4) which has been formed by exposure to the air, and is very harmful in any photographic solution. It retards the action of the other chemicals, and in a developer gives the negative a yellow, slow-printing color.

A solution of sodium sulphite may be tested for purity by adding a little hydrochloric acid and then a few drops of a solution of barium chlorid. A precipitate or milkiness of the solution shows the presence of sulphate. Crystals covered with sulphate should be rinsed in cold water until they are clear and then dried with blotting-paper before they are weighed. When sulphite crystals are put into hot water to dissolve, they suddenly become white and opaque, like impure salt. This is caused by the removal of the water of crystallization and is not a proof of impure salt. The crystals of both sodium sulphite and carbonate will melt in their own water of crystallization if kept in a hot place, and on cooling will become a solid mass, but the salt is still fit for use.

Crystallized sodium sulphite should be neutral. This is perhaps the most misunderstood thing about the salt. The term neutral does not refer to its reaction with litmus paper but to its chemical composition.

Every molecule of sulphurous acid contains two atoms of hydrogen which can be replaced by an equivalent metal or base. By replacing one of these atoms of hydrogen with an equivalent amount of sodium, we produce acid sodium sulphite.

$$\frac{H}{H} > SO_3 + NaOH = \frac{Na}{H} > SO_3 + H_2O$$

Sodium bisulphite, or, as I have just termed it, acid sodium sulphite, turns blue litmus paper red, showing that it is acid. The chief reason for calling it acid, however, is the fact that it still has one remaining atom of hydrogen which can be replaced.

By replacing both atoms of hydrogen with sodium we produce neutral sodium sulphite.

$$\frac{H}{H} > SO_3 + 2NaOH = \frac{Na}{Na} > SO_3 + 2H_2O$$

This neutral salt turns red litmus paper blue, showing that it is alkaline. It is called a neutral salt because its affinity has been satisfied or neutralized by replacing the two atoms of hydrogen with an equivalent amount of metal.

I have already spoken of sodium carbonate in this article, and perhaps it will not be amiss to refer to it again, since there is a similar relationship between carbonic acid, sodium bicarbonate and sodium carbonate. In this case, however, both the acid carbonate or bicarbonate and the neutral carbonate react alkaline. Neutral in this connection means that the affinity of the acid has been satisfied or neutralized, but it must not be inferred from these two examples that all chemically neutral salts react alkaline. Some of them react alkaline while others react acid. It is thought that the reason why neutral sodium sulphite and carbonate react alkaline is that the alkalinity of the sodium, or the basic portion of the compound, is of sufficiently greater power than the acid portion to cause its characteristic properties to predominate. The fact that both sulphurous and carbonic acids are quite weak, as far as their reaction with litmus paper is concerned, sustains this belief.

Neutral sodium sulphite can not be made acid. If it is crystallized from a strong acid solution, the pure crystals will react alkaline. As has just been inferred, a *solution* of it can be made acid and this is often done in the case of developers which contain pyro and sulphite in the same solution. Owing to poor manufacture, sodium sulphite often contains some carbonate which makes it more strongly alkaline than it should be. Sulphite is made by passing the gas of sulphurous acid through sodium carbonate and then evaporating to produce crystallization. It is apparent that great care must be exercised to convert all of the carbonate to sulphite, as the natural alkalinity of the sulphite would make it a little difficult for the average photographer to determine whether sodium carbonate was present unless the salt was in rather large quantities. A large amount of carbonate would be the cause of difficulties in development, unless its presence was known and proper allowance made in the composition of the developer. Such an alkaline condition would favor the pyro turning dark in solution by facilitating its oxidation. Moreover, when this alkaline pyro solution is combined with the regular alkaline solution, the resulting developer is too strongly alkaline. Something must be done to remedy this condition. An alkali is a substance having a great affinity for an acid and when combined with it forms a salt in which the peculiar qualities of both acid and alkali are modified or destroyed. In order to destroy the alkaline qualities of a de-

S. S. Lloyd, Buffalo, N. Y.

THIRD PRIZE.

veloper, a sufficient amount of some acid, usually sulphuric or oxalic, is added to make the solution react acid. This acid condition has been found to aid considerably in the preservation of a concentrated pyro solution, as it insures freedom from alkalinity of the mixture.

While the rapidity with which sulphite oxidizes seems a disadvantage, it also furnishes the cause for its most important use — that of a preservative in developers. A preservative is something which protects the reducing agent from outside influence and allows it to do its work. All preservatives have an affinity for oxygen or else they protect the reducing agent by decreasing its affinity for oxygen. Acids, such as sulphuric and oxalic, which I spoke of in the preceding paragraph, are examples of this latter class, while sodium sulphite is an example of the former class.

Pyro, as has already been said, absorbs oxygen very rapidly, turning first yellow, then brown, and, finally, black, in which state it is useless in photography. Sodium sulphite also has a greed for oxygen, and, when compounded in the developer, acts as an absorbent of free oxygen during development, thus preserving the pyro from oxidation. It was generally thought, until recently, that it prevented the oxidation of pyro in solution, but that is now believed to be due almost wholly to the acid preservative. Its real usefulness is in absorbing the oxygen set free during development, thus preventing the stain product of pyro oxidation and the consequent staining of the negative. In other words, the mission of sulphite is to act as a stain preventive, thereby regulating the color of the negative and keeping the developer clear. An alkaline pyro solution without sulphite gives a negative with a brownish image, composed partly of reduced silver and partly of the brown oxidation product of pyro. The negative loses this stain in proportion to the amount of sulphite added to the developing solution. Many of the newer developers, such as rodinal, give gray-black and blue-gray negatives as a result of the large amount of sulphite used in their composition.

The amount of sulphite required in a developer depends upon the tendency of the developer to oxidize, upon the purity of the water used, and also upon the opinion of the worker as to the color desired in the negative image. With pyro, metol and amidol, Hubl advises about ten times their weight of crystallized sulphite, while with hydroquinone and glycin only from three to five times their weight. Chapman Jones advocates the idea that the amount should be in proportion to the bulk of the solution, rather than in proportion to the amount of the developing agent, and most photographers now agree with this view. John A. Tennant advises five per cent of crystallized

A. W. Engel, Chicago.

sulphite, while Alfred Watkins suggests twenty grains to the ounce of developing solution.

Mr. Watkins and others have also pointed out that this stain has a considerable influence upon the printing value of a negative, and that enough sulphite should be used to practically eliminate it. Some workers think pyro stain improves the quality of a negative, and this may perhaps be true in the case of hard negatives, but in general, staining renders the results largely a matter of chance, as the real printing opacity of a brown negative is much greater than it appears to be. Too much sulphite produces bluish negatives which print as if they had been more fully exposed than apparently similar brown negatives. The careful worker will try to so compound his developer that the image will appear in pure blacks and grays.

Another function of sodium sulphite is that it acts to some extent as a solvent of the silver haloids, and in this way aids development, consequently the dissolved haloid has no action on gelatin to produce stain.

In compounding all developers, with the exception of metol, the sulphite should be dissolved first and the other ingredients added afterward. Usually the reducing agent comes last. Sodium sulphite is very apt to cake at the bottom of the bottle if cold water is used in dissolving. The best method is to use hot water and lower the sulphite into the bottle after having tied it into a small muslin bag, when it will dissolve without shaking or attention. Hydroquinone, glycin, eikonogen and imogen may be added to this hot solution, but it may be as well to allow it to cool a little before adding pyro, ortol or pyrocatechin. Metol is an exception, and should always be dissolved in cold water and the sulphite added afterward.

In order to insure uniform strength, all solutions of sulphite or of the alkalies should be tested with the hydrometer, as they are the ones which vary in strength and condition. Suppose we make a solution of sodium sulphite crystals, three ounces of crystals to sixteen ounces of water, we get a solution of a certain strength. We may not, however, get a solution of the same strength at another time, although it is prepared the same as the first. Its strength may be greater or less, according to the purity of the salt used. If we test the first solution, noting that it tests 45, and then the second which tests only 40, we see at once that the second lot of sulphite was not of so good quality as the first and we add more until the solution tests 45, when we know that the two solutions are of equal strength. I give the following tables which may be of use in preparing solutions of both carbonate and sulphite:

SODIUM SULPHITE.

1	oz. pure	crystals to	16 ounces	water tests	15.
2	"	"	"	"	30.
3	"	"	"	"	45.
4	"	"	"	"	60.
5	"	"	"	"	75.
6	"	"	"	"	90.

SODIUM CARBONATE.

1	oz. pure	crystals to	16 ounces	water tests	10.
2	"	"	"	"	20.
3	"	"	"	"	30.
4	"	"	"	"	40.
5	"	"	"	"	50.
6	"	"	"	"	60.

I have said almost nothing about sodium acid sulphite because it is hardly ever used, on account of the fact that it is even more unstable than the neutral salt. It can never be used safely in single solution developers, but is sometimes utilized as a decolorizer in pyro solutions. Probably its greatest utility is in the composition of acid fixing baths.

To the Editor of Photo-Beacon :

Dear Sir,— Complaints are constantly reaching me from photographers in all parts of the country who have been duped by a man or men, claiming to be agents for *Wilson's Photographic Magazine.*

I shall esteem the courtesy highly and the fraternity will be in your debt, if you will give space in your columns for the statement that *Wilson's Photographic Magazine* employs no agents whatever, outside the recognized stock dealers. Any one else representing himself to be an authorized agent may be branded at once as an impostor and fraud. Edward L. Wilson.

NATURAL HISTORY AS A SPECIAL STUDY FOR AMATEUR PHOTOGRAPHERS.

A great many amateur photographers, having tried their hand at pictorial photography with very little success, often tire of the pastime for want of anything interesting to photograph. They generally are able to make good negatives and good prints, and mount them neatly, yet their work wants something to make it interesting — they can not often tell what. To those I would say: "Take up some special study, such as natural history subjects, and all things of interest to naturalists in their various districts."

The work is just as easy as any other of the various branches of photography, and at first needs no extra apparatus, most amateurs having a camera of the stand type with a focusing attachment. No special knowledge of natural history is required to begin with, as it is quite easy to secure the services or co-operation of some natural history student in your own district who will gladly assist on the promise of a print made from the various successful exposures.

It is best to begin with birds' nests and eggs. A series of all the various kinds of nests to be found in one's district makes a very interesting collection. Then, when the eggs are hatched and the young birds nearly able to fly, some good studies can be made with a little careful arranging of the fledglings on some suitable branch near the nest.

As this takes one into the country, lots of other subjects are to be found along the roads and paths through the fields, such as caterpillars, butterflies, moths, toads, frogs and other things that creep and crawl, all of which, if photographed in their natural surroundings, make very interesting studies, and have a scientific value.

A good set of photographs illustrating any particular subject will always find a ready sale among those interested in natural history; and the demand just now for photographs of natural history subjects is in excess of the supply, so there is plenty of room for good studies by new workers.

As the subjects are very small, it is best to use the longest focus lens you have, so as to get as large an image as you can with convenience. For birds' nests I generally use a lens of eight-inch focus on a quarter-plate, and for small birds (when there is only one on the plate) a lens of eleven-inch focus on a quarter-plate. It is best to get a good sharp negative. Although the subject may be small on the plate, you can enlarge if necessary.

As to the exposure, no definite amount can be stated. For nests and eggs you will require to stop the lens down to bring the different planes in focus, and the exposure will vary with stop used and strength of light available at the time. For bird studies an exposure of not less than one-thirtieth of a second, with a stop not smaller than *f*/11, in a good light, using a rapid plate, would be about right. If the light is bad, the lens could be worked at *f*/8 or *f*/6, the speed of the shutter being the same. A little experience will soon put you on the right road to success, and a few plates are not wasted in gaining experience. Small objects like caterpillars can be taken home and placed on some of their food plant and the exposures made at your leisure. A larger image can then be got, and, with a little waiting, a time exposure can be given when the subject is at rest.

Full-grown birds are much more difficult to take than young ones. There are various ways of getting at them. One way is to focus the camera on the nest, and then attach a string to the shutter. Cover up the camera with some twigs, and then find some cover for yourself where you can see the nest. As soon as the bird is in the right place, pull the string and the trick is done. Of course, you may have a long time to wait before the bird comes to the nest, but, if you wait, it will come and be taken — if you are smart enough. Another plan is to place some food that the birds are known to be fond of in a place where the birds frequent. Set the shutter as before, then retire, string in hand, to a convenient distance, and await your chance.

This sounds very flat to read, but I can tell you that there is a good deal of excitement to be got out of the pursuit of birds in their own haunts. And one need not confine oneself to living subjects only. Plant life also makes interesting studies to the naturalist, and, when photographs are wanted to illustrate a work on natural history, you will find that a demand for the plants and flowers and general foliage is sure to be made; so it is as well to use up your extra plates on studies of the various plants as seen in the various months of the year in your district.

As I have said before, an ordinary bellows camera and R.R. lens is all that is required to begin with. A good shutter is wanted also, and a good brand of rapid plates should always be used. After exposure, the rest of the work is the same as for any other similar exposures. The main things to watch are to get the subject sharp on the plate and free from movement. Some failures are sure to follow at first, but when you have a success it makes up for a few failures. It is a very interesting study, and any one taking it up will be well repaid for their pains, as the finished prints will give a deal more pleasure to every one than the same amount of landscape work will ever do.—*The Photographic News.* J. Peat Miller.

Walter Zimmerman. IMPORTANT BUSINESS. Philadelphia.

CLEANLINESS.

Few beginners realize the extreme importance of absolute cleanliness in all photographic work. The reactions throughout the entire process are so delicate that they are very easily upset. Not only what is known as mechanical dirt, but more particularly chemical contamination, has to be carefully prevented.

To begin with, the inside of the camera should be wiped out often, otherwise dust in the camera is liable to fall on the plate when the exposure is made. The lens should be kept clean by the application of a very soft cloth, any friction which would be likely to injure the delicate surface of the glass being avoided. Dust on the lens slows it by cutting off a portion of the light.

During cold weather moisture sometimes condenses on the lens when it is taken from a cold to a warmer atmosphere, and, if not removed, is liable to put the picture out of focus. These particulars apply to cameras of all kinds, to any apparatus in which plates, films or papers are exposed or kept; and to lenses for all descriptions of work.

Dark slides should always be dusted immediately before putting plates into them, and the plates, both when placed in the slides and before development, should be lightly dusted with a soft camel's-hair brush. Dust on the plates during exposure or development causes insensitive spots, as the portions covered by it are protected from the action of the light or the developer, as the case may be. A dusting brush should be kept expressly for this purpose in some clean place, and never laid where it may become soiled, and in turn convey contamination to the plate. Dust between plates when traveling will also cause insensitive spots through friction.

In making up the various solutions the chemicals and water should be pure, and a clean piece of paper be used for each different chemical, on the pan of the scales when weighing. The bottles to contain the solutions must be thoroughly clean. It is advisable to insure this by running a little hydrochloric or other strong acid round the inside of the bottle for a few minutes, or until all stains have been removed, and then thoroughly rinsing with water. Any strongly adhesive sediment may be removed by shaking some small mixed shot in the bottle, but it is better to throw away a bottle as unfit for further service when the hydrochloric acid refuses to clean it.

On each occasion of making up a fresh supply of a solution, the bottle should be rinsed out, as most solutions have somewhat deteriorated by the time they are used up, and the dregs of the old solution are liable to contaminate the fresh one. A frequent cause of discoloration of solutions is the using of improperly cleaned medicine bottles. For instance, a pyro solution made up in a bottle which still contained a trace of an iron tonic would soon become very dark. Fresh corks should be used for new solutions, and care should be taken not to lay a cork down where it can be contaminated when out of the bottle. It is preferable to retain it in the hand, when a portion of the contents is being withdrawn from a bottle.

The measures, developing, toning and all other dishes may be easily kept clean by washing them inside and out immediately after use; they should never be allowed to stand until the solutions they contain become ingrained in them. Except in traveling, when a lighter and less fragile kind may be substituted, white porcelain dishes are the best for all purposes, as there is less doubt as to whether they are clean or not, and they are practically nonabsorbent. Most stains can be removed from these with a little strong acid, or by rubbing with Sapolio soap.

It is preferable to have dishes kept exclusively for each purpose. Dishes which are used for fixing should not be used for any other purpose except for washing after fixing. Toning dishes may be used for washing and aluming the prints previous to fixing, but not further in the process. Developing dishes should be used for no other purpose. Dishes of which the enamel is cracked are dangerous, as they secrete some of every solution used in them,

Walter Zimmerman, Philadelphia.

A CANCALAISE GRANDMOTHER.

and contaminate each solution in turn. They may, of course, be used for one purpose only with some degree of safety, but not for development.

Domestic dishes are sometimes pressed into service, but the great trouble with these is to free them sufficiently from grease, which, wherever it touches, will leave a mark by preventing the subsequent solutions from acting on that particular part. Metal dishes should never be used unless the metal is fully protected by enamel or varnish.

The hands are perhaps the most guilty in causing chemical contamination, and this particularly in conveying traces of one solution or chemical to another. They should be rinsed under the tap immediately after handling a solution or chemical, previous to being put into another solution or washing water. For instance, the minutest trace of hypo in the washing water, between toning and fixing, is sufficient to cause a whole batch of prints to be yellow in the whites. A little hypo in some developers is liable to cause fog. Then, again, the very minutest trace of mercury or copper coming in contact with platinum paper, previous to, or during development, will cause muddy stains, and probably muddy blacks; other chemicals will give equally unfortunate results.

Another cause of contamination is splashing the solutions. The splashes enter some other solution, or an empty dish which will in turn contain another solution; or the solution is spilt or splashed on the working table, to be picked up later by the fingers or otherwise and conveyed to some wrong place. Another way in which the hands are contaminated is by allowing the droppings from bottles to run over and dry on the sides to spread trouble each time the bottle is handled. The water tap should not be touched with a dirty hand, but if this should be done accidentally the tap should be immediately douched with water. The hand must never be wiped on a towel without previous washing nor dried on a dirty duster.

Any solution which has been spilled, or allowed to drip from a plate or prints, on the floor or bench should be wiped up at once, for, if allowed to dry, the chemical left by evaporation will eventually rise in the form of fine dust and that of the worst kind, and possibly cause endless trouble in the form of what are apparently mysterious spots. Dry chemicals dropped on the floor, or light ones, such as pyrogallic acid, allowed to float in the air as dust are most injurious.

A mere speck of chemical dust alighting on a plate or print generally causes a considerable spot when wet.

Another source of stains is allowing the sleeves of the working coat to dip into the solutions, or rub on a dirty bench, and, later, either wet or dry, to come into contact with the work.

The darkroom sink should always be kept clean, and not become a receptacle for waste plates and paper, nor should this rubbish be thrown on the floor, but into a waste box kept for the purpose. The darkroom and other workrooms should be kept as generally clean and tidy as is consistent with the work.

It is well to set apart a place where fixing alone is done, and when toning, the fixing solution should not be handled until the prints are toned and washed, and the toning dishes, etc., cleared away.

Solutions should not be used after they have become discolored. When a developer turns brown from developing too many plates, or from other causes, it will in turn convey its color to the plates besides being deficient in developing power. Dirty hypo will do the same. A fresh solution of hypo must be used for each batch of prints, although a little yellowness from slightly discolored hypo may not be a fault in a negative.

Many working solutions are contaminated by placing plates and papers in them from which the previous solution has been insufficiently washed out. A scum forms on the surface of some solutions, as with the Platona developer, when left standing in a dish, and this should be removed before any prints are developed, by drawing a piece of plain paper across the surface.

Labels on bottles should be renewed as soon as they become illegible through dirt, so as to avoid mistakes.

Previous to lifting negatives from the last washing water they should be examined on the surface for dirt or scum, which, if present, should be removed by gently rubbing with a tuft of cotton-wool. They should then be placed to dry in a drying rack or clean place free from dust, but if such a place should not be available, a piece of stiff, coarse muslin should be placed over the drying rack as a protection.

Before printing, the glass side of the negative should be cleaned, as dirty glass obstructs part of the light, and if the dirt be pronounced will cause uneven printing, especially when printing by artificial light. The negative should be dusted each time a piece of paper is placed on it, and the printing pad must be clean and never laid for even a moment in any damp place, or where cleanliness is doubtful.

The general brightness of prints is improved by sponging them previous to placing them to dry. When they are laid out to dry a clean material must be used or contamination may occur at once or develop in time. A clean towel is as good as anything for this purpose, or prints may be pinned by one corner to the edge of a clean shelf. Care should be taken that they are not near where the ash from a fire may alight on them. Prints which are not to be mounted should not be allowed to get dirty by being left about, but should be kept in envelopes or in empty plate boxes, under the pressure of a piece of glass the same size as the box.

In mounting, the same scrupulous care is essential. The paste should be fresh and free from grit. If it should be gritty it must be pressed through muslin. When the prints are laid on the mount, a clean material should be used for rubbing them into contact, and any paste be sponged off mount and print, which must then be dried in a clean place where no dust can fall on them. The importance of scrupulously clean glass or other material for enameling is obvious, as the surface of the print will vary according to whether the glass is clean or dirty and free from finger-marks or otherwise.

Water is sometimes charged with impurities of various kinds. In towns this often consists of iron rust from cisterns or water pipes, and causes black spots, particularly on P.O.P. prints. The trouble can usually be remedied by filtering the water through a flannel bag tied over the tap.

A very frequent cause of stain or markings is cutting up or placing sensitive paper on a table which may look clean but is not chemically clean. Even if the back of the paper only comes into contact with the contamination, the sensitive side will be affected either before or during the toning or other processes.

The sensitive film of plates, films or paper should not be touched with the fingers, which, even if chemically clean, may leave marks from the natural moisture of the skin.

Plates and papers should be stored in a clean, dry atmosphere, away from the influence of house gas or chemical fumes, such as ammonia.

The foregoing are some the principal means of contamination; others will readily suggest themselves to the thoughtful worker. Nowhere more than in photographic work is dirt "matter in the wrong place."

The clean worker, as a rule, does, or will do, good work; but no matter how excellent the work may be in all other respects, a general want of cleanliness will infallibly condemn it.—*Photographic Scraps.*

PLATINOTYPE PRINTING.

(A Demonstration before the Royal Photographic Society.)

Mr. E. T. Holding said that he was an enthusiastic advocate of the platinotype process. It was extremely simple to manipulate, and it had many advantages over other printing processes, one of them being its quickness, requiring, as it did, only a half or a third of the time necessary for silver printing-out paper. Further, a platinotype print, so far as their knowledge went, was absolutely permanent, the image being composed entirely of platinum (which could be attacked by scarcely any known reagent) upon a support of pure paper. The tones and colors given by platinotype paper were impossible to beat for beauty, and one might say that there was a case for platinum printing which it would be very difficult to assail. The process was invented by Willis in 1873, improved in 1878, and further improved in 1880. He believed that the paper, as modified in 1880, was almost the same as that supplied at the present time. It might be asked, What is a platinum print? The simplest and best reply was that it was an image of platinum in a state of very fine division upon a paper or other support. The modern paper was worked with delightful simplicity. When first introduced, the platinum, which ultimately formed the image, was contained in the developer, but now it was held by the paper, and the expense of introducing it in the course of development was abolished.

THE NEGATIVE.

As regards the negative most suitable for platinotype printing, his own negatives ranged from those bright yellow ones, with almost clear glass in parts and sooty blackness in others, to negatives of good gradation, but it did not matter much about the quality of the negative, as one could get prints from hard or soft negatives. As regards the varnishing of the negative, he used to do this, but he found the process an annoyance in several ways, and did not now trouble about it. Chemists would perform a great service if they would invent a good varnish that could be easily applied with a brush.

THE PAPER AND ITS STORAGE.

The number of makes of paper on the English market was not unlimited. He had used the following, prints upon which were hung upon the walls: The development papers of the Platinotype Company, Ilford, and Kodak, Jacobi's printing-out paper, and Hardcastle and Jacobi's cold bath sepia paper. One of the first necessities of the platinotype process was that the paper should be kept absolutely dry, with which view it was sold in hermetically sealed tins, which excluded all damp. On removing the paper from these tins, it should be placed in proper storage boxes, of which several forms could be had commercially. In the case of the box shown, the paper was contained in the upper part, the lower part being the receptacle of some chlorid of calcium, which had the property of absorbing the moisture in the air with which it came in contact. Broad rubber bands placed outside the tin, over the junction of lid and box, formed an additional precaution against the ingress of damp-laden atmosphere. This device kept the paper so dry, as a matter of fact, that it required very careful handling, as the sensitive surface of paper in this condition easily cracked, and the cracks would be apparent to the end of the process. The paper, as usually supplied, was rolled with its sensitive surface outward; this served a double purpose — preventing the sensitive side from cracking and facilitating the introduction of the printed surface to the developing bath.

PRINTING.

Mr. Holding humorously remarked that some advanced workers preferred to use the paper damp, and for that purpose kept it in a cardboard box in company with damp blotting-paper. It was on paper so treated that many of the results looked for about September in London were obtained. Returning, however, to the orthodox method of using the paper, it was well to have a rubber pad or sheet in the printing frame, because this prevented the access of damp to the paper during the printing, and with its help printing might safely occupy two or three days. It was not necessary to develop platinotype paper immediately after printing: it could be kept in the storage tube for two or three weeks or even longer. The image was not usually printed out. In its original form the sensitive side was bright lemon yellow in color, which, when sufficiently printed, would be found a delicate purple. One must look, not for the finest detail, in judging the depth of printing, but for all detail except the very finest, and when the paper had reached that stage it could be considered as fully exposed and ready for development.

DEVELOPMENT AND CLEARING.

Development was effected in a solution of potassium oxalate. It did not seem to matter how much oxalate were used, judging by the variations to be found in three or four formulæ which he named. His own formula was:

Potassium oxalate	2 ounces
Potassium phosphate	½ ounce
Water	14 ounces

He had used this formula, hot and cold, with equally good results.

Walter Zimmerman, A NORMANDY COURTYARD. Philadelphia.

If the bath gave a warm tone and one wished for black tones, the developer should be rendered acid with enough oxalic acid to make the bath to redden litmus paper. Personally, he preferred the black to be slightly on the warm side; and he also preferred old developer, adding a sufficient quantity of the new from time to time in order to maintain the requisite quantity. One should be careful to remove any scum formed on the surface of the developer before immersing the print, and air-bells, if produced, should be brushed away with the finger. The image developed immediately, but the print should not be removed from the bath directly the action had apparently ceased, a slight interval being allowed between that stage and its removal to the acid bath. Immediately after development the print should be cleared in a bath of:

Hydrochloric acid	1 ounce
Water	60 ounces

The clearing bath when mixed was perfectly clear, but the effect of introducing the print was to turn the bath yellow, and this fact afforded a method of testing prints for sufficient clearing. Until the print ceased to produce a tint in the acid bath it was safe to conclude that it was not sufficiently cleared. So long as yellowness could be seen, traces of iron, which it was the function of the acid to remove, remained in the paper, and the treatment must be repeated. It was well to have, therefore, two or three dishes of acid bath, so that the prints could be transferred from one to another and thoroughly cleared. The acid did nothing but remove the iron; it had no effect upon the picture.

The developer given was a cold bath developer for black tones. If the image produced were at all brown, it was a sign that the solution was either too warm or that it was getting old and degraded. It might, on the other hand, indicate that the paper had not been kept free from damp. When developed and cleared the print should be quite clear in the whites. Failure to remove all traces of the acid after clearing might result in the ultimate rotting of the paper, but the developer itself was not deleterious. The print should, therefore, be washed in three or four changes of water and dried in clean blotting-paper. One of the makers recommended a pinch of washing soda in the washing water to neutralize any acid left in the paper.

So much for black tones with the cold bath. There was, however, a method of securing black tones with a hot bath paper, but the advantages were so small that the cold bath answered all practical purposes. The hot process was simple; the developer already mentioned, but made up stronger and used at about 90°, would closely resemble the hot bath formula.

Sepia paper was more sensitive than ordinary black tone paper, and should be handled with greater care, and examined during printing only in the weakest light. Otherwise it was very similar, although it was not supposed to keep so long. He thought, however, that paper from five to six months old gave nicer tones than new paper, and he showed prints to substantiate this.

As regards platinum printing-out papers (which did not seem to be much used here), the results had a charm of their own in color and texture. Jacobi said of his paper, do not print in direct sunlight, but in the recent poor light as much as forty-eight hours' exposure, and five or six of those in direct sunlight, only yielded an underdone print. The disagreeable ginger color of some sepia prints may be readily modified by the introduction of chlorid of mercury into the oxalate developer, the addition of this salt giving browns of a wide range. As regards the permanence of prints produced in this way, there was no doubt that as soon as one introduced foreign matter into the ordinary oxalate developer the tendency was to interfere with the permanence of the print; but he thought photographers were justified in using anything that gave them the color they wanted, and provided they took care of the prints when made there was no reason why the colors should be particularly fugitive, and certainly they were very delightful. The formula with which he had succeeded best was that proposed by Mr. C. F. Inston:

A.

Potassium oxalate	1 ounce
Water	7 ounces

B.

Potassium citrate	75 grains
Citric acid	120 grains
Mercuric chlorid	45 grains
Water	7 ounces

The two solutions mixed make the developer. A slightly weaker acid bath should be used for clearing these prints.

Mr. Holding then showed a print that was very much overprinted and developed in the ordinary way, and another print of a similar character which was developed in the following manner, with the result that the effect of gross overexposure was overcome. A piece of coarse, loose fabric is soaked in the developer and wrung out; it is then laid on the print, and care taken that it comes into contact with the paper all over. The result is that the print develops only in those parts touched by the coarse mesh of the fabric, and it is wonderful what an amount of detail is saved by the method. Correctly handled it gave a rather pleasant grained print, presenting the appearance of a picture on canvas.

The use of glycerin in the platinotype process opens up tremendous possibilities. Mr. Holding showed that it was possible to retard the development in parts of a print and entirely to eliminate others, developing up just those portions that are required with the aid of a brush. Briefly, the method was to go over the whole of the print with glycerin, which prevented the developer, afterward applied, from getting at the image, or at least weakened it considerably during its passage through the glycerin film. A print was successfully developed in this way, the head only in a portrait being produced. After development the print is cleared in the usual way, but it is as well to help away the glycerin with a tuft of cotton-wool, so that the acid may at once stop the action of the developer.

There was also another method of developing platinotype prints — that introduced by Mr. J. Packham, who found that the deposit on the platinum print had a peculiar affinity for catechu. The effect was not that of staining altogether, as the catechu was attracted by the platinum deposit, whereas the white paper was not readily affected. Mr. Holding's experience was that the print, if left in the bath too long, or if the bath used is too hot, became stained, but if used at the right temperature the formula gave a very pleasant tone. He found that the process did not intensify the print, but rather softened it, there being more contrast in the original than in the toned print. This bath was used at 150°, and if the tones were not satisfactory they could be washed out with soap and water, or discharged by exposure to sunlight or weak hydrochloric acid. The prints shown by Mr. Holding were afterward treated in the acid bath, and in his opinion the color was greatly improved as a consequence, being changed from a disagreeable red to the pleasant tone they presented.

The following formula was given for the toning of prints with uranium:

1.

Uranium nitrate	10 grains
Glacial acetic acid	1 dram
Water	5 ounces

2.

Ferricyanid of potassium	10 grains
Glacial acetic acid	1 dram
Water	5 ounces

These solutions are prepared separately and mixed, and a piece of sulphite of soda, about the size of a pea, finely powdered, is added.

Mr. Holding remarked that the colors of the prints on the walls, toned with uranium, were not what he would call agreeable. The colors also were fugitive, and the process itself was not a comfortable one because of the strong odor given off by the bath. Frequently the prints were stained rather than toned, but the process had the advantage that, if one did not like the color, one could put the print back in the developer and restore its original color, which, he believed, in nine times out of ten, was the better of the two. Some workers, however, obtained very good prints by this method, the colors given being brown, red, green and blue, the last two suitable for night effects. As an intensifier the process had its uses, because one could sometimes save prints with the aid of the bath, when other-

Walter Zimmerman, Philadelphia.

A VITRÉ STREET.

wise they would be useless. The following precautions must be observed. Every trace of the iron in the paper must be removed, and it is well to give at least five acid baths, and even then to test the last washing water to make quite sure that no trace of iron remains. Prints to which it is desired to impart a red tone should be slightly underdone. For blue tones the same formula is used, but the print should only remain in the clearing bath, after development and before toning, for about ten seconds, when it is at once immersed in the uranium bath, in which it will turn to a blue color. When the tone is somewhat darker than ultimately required the print is cleared in a weak acid bath (acid, ½ ounce; water, 120 ounces). This process presupposes that it is the intention to produce the blue print; if, on the other hand, one wishes to convert a print with red tones into one with blue tones, the best way is to immerse it in a solution of sulphate of iron ½ ounce, water 20 ounces, in which it becomes blue. Now, the reason why the print intended at the outset for blue tones is immersed in the clearing bath for only ten seconds is because one has to retain in the paper a certain amount of the iron, the blue tone being due to the interaction of uranium and iron; hence, in the case of a print absolutely cleared of iron, which, however, one desires to convert into a blue print, the necessity of using the sulphate of iron solution given above.

THE POISON SCARE AGAIN.

Rodinal has been on the market for at least a dozen years, for in 1892 I brought with me a bottle of that developer. From that time until now I have been in constant touch with photographic literature and I can not remember ever once having seen a hint that Rodinal was harmful to some skins. I feel, therefore, I ought to give publicity to the following article from *The Photo-American.*— F. D. T.

In the December number of a four-page trade sheet, entitled "Down Town Topics," published by the Obrig Camera Company, New York, appears an article by Mr. Alfred Stieglitz, which he is pleased to call "Some Photographic Tips," but which I think is really a most unwarranted and useless attack on the Rodinal people. He says:

"It is incredible to see the gross carelessness and ignorance displayed by the average photographer in the use of photographic chemicals which are decidedly poisonous. Many skin and other annoying and difficult-to-cure troubles are caused thereby. Take, for instance, some of the newer developers — even when used with great care they are apt to do mischief to some tender hands — most photographers literally bathe their fingers and hands in them while developing, little realizing what big chances they are taking. Careful and clean worker that I am, I found that the strong alkali used in Rodinal is very apt to damage my fingers, and for that reason, good as I have found the developer in many respects, I have been compelled to discard it. And yet I see some men literally bathe in it. They may yet pay the penalty for it. I know of a well-known photographer who used a popular developer for years and years and never had had any trouble from it, and yet one fine day he awoke with a sore arm and hand which took months to heal. His favorite developer had been responsible for the severe ailment. I therefore advise photographers who do much work to first inform themselves thoroughly about the poison factors of some of the developers before using them. Such information is best gotten from some one not interested in the sale of the products. And after having posted yourself and you feel inclined to use the most poisonous of the developers, my advice is use rubber gloves and don't spare washing water.

"This question of poisonous developers and other photographic poisons constantly in use has not been sufficiently aired in the photographic press. I hope these lines may start the ball a-rolling."

Now, this is only one man's story, and I have no reason to swallow it as final, because I've had a good deal more experience with Rodinal than Mr.

Stieglitz, and have, as he says, "literally bathed in it," and so did my assistants. For a number of years I carried on an establishment where developing and printing was done, and in the winter I preferred and often used gallons of Rodinal per day. I have had my hands in more gallons of Rodinal than my good friend Stieglitz has in gills and never got poisoned nor did any of my assistants. That was when one had to cut rolls of film in strips to fit the tray and keep turning them over from the bottom, so it will be seen that we all got our hands pretty damp, to say the least. I want to say nothing against Mr. S., he is a pupil of a great German photographic chemist and author, but my experience seems to contradict his wholly, and I deem it just that such an

Walter Zimmerman, Philadelphia.

AN OLD NORMANDY INN.

assertion as his should not remain unchallenged. It may be that Mr. S. has very tender hands and might as easily poison them in Vichy water, but I've had lots of experience with Rodinal and know many who have used it ever since it came on the market, and I have taken the trouble to ascertain facts from a considerable number of them. I invariably learned that it was the first they ever heard of Rodinal being poisonous. Moreover, thinking that perhaps the developer might have changed, I obtained a goodly bottle of it before writing this and used it, though I had a cut on each hand; alkali smarted some in the cuts, but as yet I have not needed the coroner or found any trace of poison, and I don't expect to! Why did Mr. Stieglitz sting Rodinal so hard when there is another developer that has been called poison by a lot of wise ones? We must draw our own conclusions. Anyway he has, as he says, "set the ball a-rolling," and I shall be very glad to keep it going if he writes more things that my practical experience contradicts. Pop corn is very good in its way, but *it needs a few grains of salt.*

Edward W. Newcomb.

Fishing stories are notorious for their Munchausen-like veracity, but the following, which is sent to us by a kindly correspondent, and is from the Yorkshire *Weekly Post,* has such a distinctly technical flavor about it that we can not refrain from reprinting. The writer, having told one story of the rapacity and capacity of absorption of the pike, goes on to say: "That is the story, but I do not think it illumines the subject anything near so vividly as the experience of a photographic friend of mine on a Scotch loch last summer. While taking a view from a high rock overhanging a deep portion of the loch, he was in the act of timing the exposure when his watch fell into the water and was gone forever. After that he was more cautious, and determined to take only snap-shots. A few days subsequently he was out on the loch in a boat busy with a small kodak, when the machine was jerked out of his hands into the water by the heaving of the boat, and instantly a huge pike, attracted, probably, by the light glinting on the lens, had it in his jaws, and set to work to swallow it. But the wise photographer had a string to his valuable this time, and stuck to it like grim death, while the boatman pulled after the pike to ease the strain. Now comes the interesting feature of the incident. When the fish collared the camera it was fully loaded up and set at full cock, and, while swallowing it, of course every now and then one of the pike's throat-teeth would touch the button, and the kodak did the rest. By the time the fish had got it comfortably pouched it had made fifty-one exposures; then, somehow, the thing disagreed with the pike, so that he disgorged it, and the photographer recovered possession by hauling in the string. Noticing that some exposures had been made, he was curious enough to develop them, and the first thing that appeared on the film was a perfect picture of his lost watch, while the rest of the remarkable picture-gallery that quickly came to light included an old boot, seven artificial spinning baits, an old lobster can, a steel buckle, and a set of brass fire-irons that had been unaccountably lost from the laird's house-boat at the other end of the loch." We do not gather that our correspondent has seen either of the negatives or prints from the same. If obtainable, we shall be very pleased to pay the full fees for right of reproduction.

STAINS ON DISHES.

To remove developer and other stains from dishes, mix some salt with enough water to form a sort of paste, and rub the stains with this mixture with a piece of cloth. If the stains are of long standing, and this fails to remove them, rub the salt into the stains with a piece of pumice-stone. This will remove any stains of any substance such as hypo, pyro, etc. Ant.

A new edition of The Photo Beacon Exposure Tables is now in preparation and will be ready in June. All plates are now being tested for this edition.

ABOUT SIMPLIFICATION.

There is a passage in that entertaining and instructive little volume, "Hunt's Talks about Art," that has always seemed to me specially deserving of being fixed in the memory for use in moments of doubt, namely, "When values are so nearly alike that it is difficult to distinguish them, make them alike, and thus learn to simplify your masses."

The significance of this little piece of advice may not be perfectly clear to the inexperienced, and, therefore, in asking my readers to accept and remember it, I may perhaps help them by endeavoring to throw light on its meaning and application. At first it might seem that the advice involved a certain neglect of perseverance and investigation. If there were two tones, perhaps arising from difference of texture, and the conscientious artist knew that they were different yet could not separate them, he might well imagine that the duty rested on him of deciding the question one way or another before he could consider his picture finished. I am far from saying that the effort should not be made, if only for the reason that in this way one cultivates acuteness and subtlety of pictorial vision. But, while an investigation so elusive is being continued, there is always the danger of weakening or even losing the spirit of the picture as a whole. One might eventually succeed in differentiating, say, the silk from the velvet, but at too great a cost to the total result.

Supposing, however, that the feat is accomplished successfully, there must always come in the question, "Is it worth while?" Sometimes it may be worth while, for such exactitude may possibly enhance the interest of the most important part of the picture, though, if it falls elsewhere, one may conclude with some degree of confidence that it is not worth while. The reason must be apparent if we remember that every additional tone that is placed away from the center of interest must weaken the emphasis that we wish to give to that part; while, conversely, the more we simplify those parts which are of secondary importance, the more forcibly are the eyes of the beholder attracted to the point of focus. This is not to say that one part of a picture should be highly elaborated and the rest should be vague, but there may be a graduated scale of definition, just as there may be gradations of tone, as, for instance, when we look over a wide stretch of country and see the details of trees and cottages merging themselves by imperceptible stages into the mystery of the distance. Here we get both graduated tone and graduated definition. The latter quality is often necessary, also, in a foreground, for if we have strongly marked definition at the bottom edge of a picture, its effect must be to attract attention, thereby carrying the eye of the beholder away from the contemplation of the work as a whole, and inviting neglect of the main theme. To keep the spectator's eye well within the picture must be the artist's object, but in order to accomplish this he may be confronted by a dilemma, which is more likely to assail the landscape man than the portraitmaker. There is no doubt that a forcibly modeled foreground helps to bring it forward and to throw the rest back, while there is, on the other hand, no doubt that a sharply defined foreground must interfere with the point of emphasis, if it is anywhere near the center of the picture. This is a crux that demands special attention, and the artist will doubtless find it necessary to simplify his foreground while relying solely on a judicious use of tone to obtain his aerial perspective.

Evidently we can not have emphasis without simplification — the two things are as much the complement of each other as light and shadow — and it is just as well to remember that we do not introduce either entirely for its own sake, but to some extent for the purpose of giving effect to the other. There is beauty in well-placed definition, the fascination of good workmanship and faithful representation; and there is also beauty in judicious simplification, the charm of restraint, of mystery and suggestion. But when the two qualities are discriminately combined, the beauty of each is enhanced. How convincingly this has been established by Rembrandt!

There are, however, limits to the employment of definition even at the point of emphasis, and to a great extent these are governed by consideration of the size of the picture. If the scale is small, elaborate definition is apt to become too minute for pictorial purposes, and therefore the artist should be guided by the distance from which the work is intended to be seen. There is a certain standpoint from which every picture is seen at its best, and it is useless to put in details that can not be appreciated from this position. The standpoint may vary for spectators having different peculiarities of eyesight; but for the artist it is always the same, and if he finds that it does not give effect to all the details that he has emphasized, his proper course is to simplify the weakest, and thereby further to strengthen the others. Another reason may be suggested why even at the center of focus it may be desirable to carry out Hunt's advice. Simple masses of tone, if properly placed, have a decorative value; for a picture, it should be remembered, before it is a representation of any scene or object, should be a harmonious design or pattern composed of masses. This will, I think, be better understood by those who have happened on the remarks that I have made in previous articles as to composition and chiaroscuro. Now, this fundamental pattern having been arranged as a starting point, it is desirable, as far as possible, to retain its effect throughout the whole work, and therefore the masses should not be broken up any more than is absolutely enforced by pictorial requirements. Moreover, plain masses of tone, if expertly managed, always give dignity and force to a composition, and to substitute fidgety detail for such an impression would be a very bad exchange. Every one must recognize the sense of grandeur and strength that is imparted to the work of J. F. Millet, in a great measure through the rigorous protection of his masses.

Strength and simplicity go hand in hand in art, and to such as recognize this, simplification must be of paramount importance. It is curious, perhaps, that simplicity should have such force, for in real life, however admirable, it is scarcely impressive. But the two things must not be confused. In art the simplicity is rather apparent than real, it is arrived at by much searching and through dint of experience — the art that hides art. At its best it signifies the full comprehension, not the neglect, of the details that are simplified; it implies a sacrifice of the parts to the whole, and recognition of the relative importance of things, that must command respect. Simplicity, also, stands for directness and candor, qualities that will carry conviction where involved and complicated pleading may cause bewilderment. The artist should go straight to the point, and should avoid confusing the issue.

Truly nature is complex, but if art is simple, through its simplicity it may extract the essence of nature. Yet nature, seen through the artist's eye, is not so complex after all. Light, shade and atmosphere are great simplifiers that unite myriads of little objects and mass them in broad tones. Those who seek to represent light, shade and atmosphere will find the complexities of nature greatly diminished, but it is courting perplexity to aim at the objects enveloped in, and only partly revealed by, these phenomena, and to neglect the more or less transparent veil that they throw over the whole scene, bringing all its parts into harmonious relationship. Our reverence for nature is not the less if we are content to see her through the veil that she has devised for the enhancement of her charms by the added influence of mystery. To tear the veil and investigate the naked form is not the function of art, though it may be that of science, for art is concerned only with appearances, and science only with actualities.

Sunlight simplifies because the first impression that it gives is that of a mass of light in which separate objects are only discernible after the eyes have accommodated themselves to the glare;

shadow simplifies by hiding the smaller details; and atmosphere simplifies by imparting a pervading tone that colors every object and brings them together in a harmonious blending. Thus we have sufficient ground for arguing that if we wish to be true to nature we can not neglect simplification.

Its value may also be enforced by another line of reasoning, namely, that if we fix our eyes on the central point of interest in any scene, the surrounding objects can not possibly be well defined to our vision. Such a theory has not always been accepted as applicable to pictorial representation. The old Dutch painters did not admit it, and the Pre-Raphaelite movement was altogether against it, for the aim of the brotherhood, in their intense desire to be truthful, was to define everything minutely, wheresoever it might be placed. Such a view of the duty of art to nature has, however, been long since abandoned, and now it is seen that we can not focus everywhere at once, but must be content with a single focus.

In conclusion it may be useful to remark that simplification, however desirable, is not without its dangers. There is the danger of carelessness — of simplifying without understanding. This peril will be avoided if the artist remembers that though he may simplify he must always suggest, and he can not thus convey his meaning unless it is clear to himself. There is a danger of uninteresting flatness; but a tone is never uninteresting if it is correct, and it is always possible to avoid monotony by a less uncompromising process of simplification. Then there is the danger of conveying a sensation of excessive vagueness, but this only means that the simplifying has not been done with discrimination, that the needful emphasis has been neglected, and that the idea of graduated definition, which I mentioned earlier, is absent. It is no more desirable to have extreme vagueness all over a picture than extreme definition. This would only be Pre-Raphaelitism upside down.—*Amateur Photographer.*

The Photo Beacon Exposure Tables are guaranteed correct. Price, 25c.

PHOTOGRAPHERS' ASSOCIATION OF BAY CITY AND SAGINAW.

The Bay City and Saginaw photographers will give a spring exhibition and school of instruction at the Masonic Temple, Saginaw, on May 11 and 12. Able speakers and demonstrators will be in attendance. The meeting will be in the nature of a convention, and every photographer in the country is invited to come and absorb all he can.

THE PHOTOGRAPHIC JURORS AT ST. LOUIS.

Last summer Colonel Ockerson, of the Liberal Arts department of the World's Fair, asked a number of societies to nominate one juror each, to select the pictures to be hung in the photographic section of his building, and also to indicate those they felt deserved a place in the Building of Fine Arts. A number of societies, for various reasons, declined to recommend a juror, but the Chicago Society of Amateur Photographers selected Wm. B. Dyer, a choice that I personally heartily endorse. Unfortunately, at the last moment, Mr. Dyer finds it impossible for him to serve, and the society, in its wisdom, has appointed me in his stead. So my readers will see that once more I am to be in trouble, but my rule in life has been never to hunt for an honor, but when I have been asked to do some work for the community to invariably assent. To me patriotism does not mean trying to shoot the other fellow, giving him the smallest possible chance to hit you in return, but it means doing some work for the community without hope of fee or reward. The jurors in the photographic department at St. Louis work without pay.

In next issue I should be able to give my impressions of the photographic exhibit as a whole, and also such features of the Exposition as appeal to a photographic eye. F. Dundas Todd.

Some remarkable enlargements are to be seen in many of the photographic stores throughout the country. They are issued by Taylor, Taylor & Hobson, to show the possibilities of a Cooke anastigmat, and, though measuring something like 16 by 20, they are direct from 5 by 7 negatives. One of them shows three race horses going at full speed, within only a few feet of the camera, and at right angles to the lens' axis. A small half-tone of this subject is shown in our advertising pages this month. The pictures are by J. C. Hemment, of New York, and are worth examining by those interested in high-speed photography.

New York, Dec. 16, 1903.

The Photo-Beacon, *805 Security Building, Chicago, Ill.:*

Dear Sirs,— We thank you for the mention you have made on page 366 of the new Heliar lens, but there was a slight mistake made in saying that the Roosevelt group was made with the Heliar lens. It was made with the Collinear. If you have any inquiry in reference to the matter, we would request that you rectify the error in your next issue. Very truly yours,

Voigtlaender & Son Opt. Co.

EDITORIAL TABLE.

The Seneca Camera Company, Rochester, New York, has just issued its catalogue for the year.

The Voigtlaender & Son Optical Company, 137 West Twenty-third street, New York, has issued a catalogue treating specially of the new ultra-rapid anastigmatic lens, Heliar, copy of which will be sent to those interested.

From Klay's Plate Holder Company, Bluffton, Ohio, we have received copy of the descriptive catalogue referring to the Well multiplying holder manufactured by them. By its aid from two to twenty-eight different pictures can be made on a 5 by 7 plate. Copy of the booklet will be sent on application.

Bausch & Lomb Optical Company, Rochester, New York, have just issued a new catalogue on portrait lenses. On opening the booklet the first thing that strikes the eye is the announcement of a new portrait lens that works at the extraordinary stop No. 8-2.2, and one is tempted to see whether it is for anything but mighty small plates, but a full-sized cabinet portrait illustration made with this instrument shows it is intended for serious studio work. Then there is the portrait Unar, of the anastigmatic type, which will produce portraits as sharp as the proverbial needle or as soft as the most rabid fuzz typist can desire — this by using the diffusing system referred to later. In the mounts of all the portrait lenses made by this firm will be found three distinct new departures. By simple contrivances the lens can be focused, the stop changed or the focus diffused without the photographer changing his position at the rear of the camera. Not only will this be a great comfort, but it will remove a constant cause of irritation to many sitters who do not like the operator to be always on the move. The new diffusing system differs from all others in this — that the front combination is movable, not the rear, hence the proper adjustment can be made with the lens on the camera; nay, more — as has been said, the operator performs the necessary operation while his eye is on the ground-glass, so that he can see exactly what effect he is getting. There are some very interesting, practical articles in the book that should be read by every one, whether they intend buying a portrait lens or not, and since a copy will be sent on request we fancy every reader will request it.

THE PHOTO-BEACON.

AN ILLUSTRATED PHOTOGRAPHIC JOURNAL

Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All remittances should be sent by postoffice money order, draft or registered letter to the order of The Photo-Beacon Company.

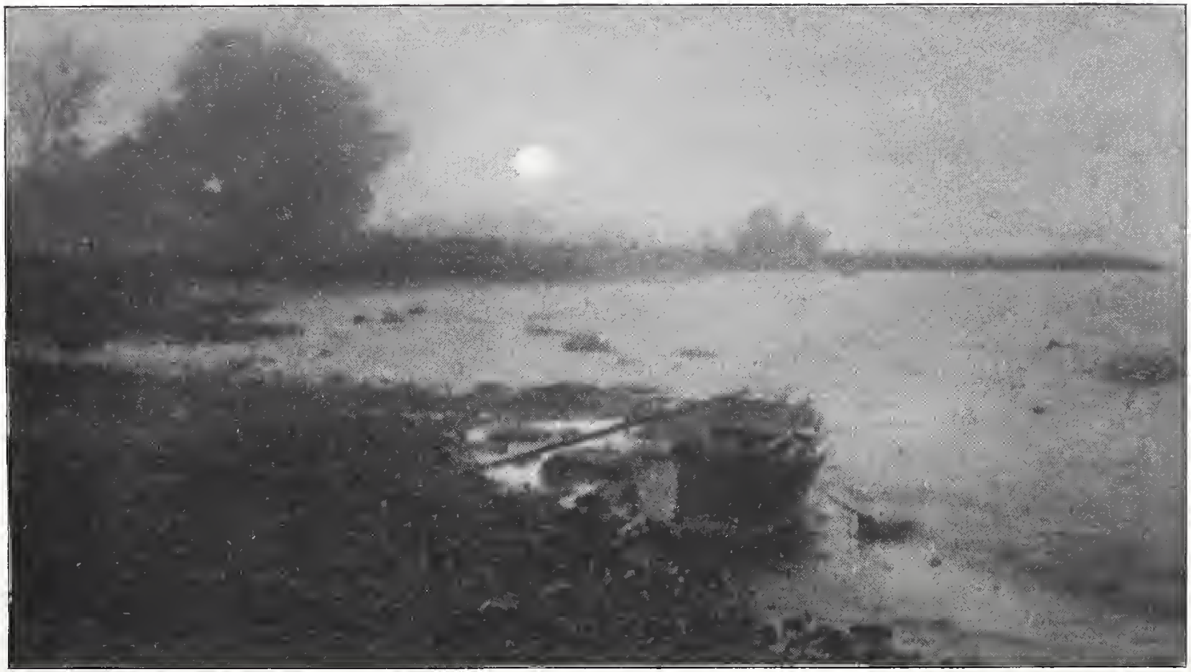
Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

To insure insertion in any particular number, copy for advertisements must be received not later than the 20th of the month preceding.

All communications relating to The Photo-Beacon should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621 Broadway, New York.



W. H. Porterfield, Buffalo, N Y.

FIRST PRIZE.

THE
PHOTO-BEACON.
EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 908 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XVI. JUNE, 1904. No. 6.

PHOTOGRAPHY AS A PROFESSION.

FIRST ARTICLE.

Before I had sat very long in the editorial chair I became very interested in the professional and his work. Somehow or other I got so close to many of them that they felt they could tell me their troubles, their aspirations and their failures, so before very long I began to realize that while it was very congenial employment for a great many people, the occupation of a photographer brought to the average man a very meager living. In the past six months I have made it my business to probe deeply under the skin and from actual figures I find conditions to be just as bad as I feared. To make sure of my ground while speaking before a recent convention, I made the statement that I believed that at least seventy-five per cent of the fraternity, whether employer or employe, did not have an annual income exceeding $500, and urged my hearers to contradict me if I was wrong, but it was admitted unanimously that my figures were correct.

A good photographer is more than an ordinary skilled laborer. His occupation borders so close on the artistic that it is incumbent on him to be a man of culture to a greater or less degree. In the daily routine of business he meets people who are in their best clothes, and so must dress at least decently. His business calls, therefore, for many little expenses, costly tastes and habits unknown to most business men, and yet the profession as an income-producer has fallen so low that the average man gets out of it a sum that is equaled only by the ordinary day laborer. While an ordinary mechanic can command from $3 to $4 a day, photographic employes are offered — and here I know actual facts — from $8 to $10 per week, with seven days' work at that. Only once in the past six months have I known of $20 being offered and this was to induce some one to go to a city in the desert plains of the Southwest.

The social status of the professional photographer is a decidedly unsatisfactory one. As a professional man — he ordinarily claims to be that — he is decidedly the lowest rung in the social ladder, while as a business man he ranks alongside the village barber. In plain English, his calling does not at present demand from him a sufficiently high education to entitle him to social status equal to what is granted the doctor or lawyer, while his financial condition forbids him ranking with the grocer and hardware man who may be his inferior in scholastic attainments. It is all very well to quote the much-hackneyed lines:

> "Worth makes the man,
> The want of it the fellow,"

but in the last analysis dollars and cents determine almost everything. It is money that makes possible the college diploma in the doctor's hand, and it is the same coin that makes the tradesman an influential man in his community. The tramp has no social standing because he is entirely deficient of funds, the millionaire is good enough for any society.

After all, what constitutes a profession? It is an occupation into which entrance is difficult to the average man because those in it demand a long and expensive preliminary training from such as desire to join its ranks. Pretense is persistently made that the barrier is raised to protect the public from ignorant practitioners, but I must frankly confess that to me they are simply glorified trades unions. The mechanic, being unable to make the specious plea of the doctor or preacher, and not having the audacity of the lawyer, is forced to admit the bald truth that he is fighting for self-protection when he combines with his fellows to limit the number of apprentices, and so gets condemnation from the professional who has been ingenious enough to devise an automatic method that has State authority back of it.

Barriers round occupations are as old as history. The witch-doctors of our savage ancestors confided the sacred mysteries to only a few, so that they should not be more numerous than the community could afford to support. In the same way, the Hebrews made the priesthood a family affair, limiting it to the tribe of Levi and so automatically kept the number within bounds. But it is needless to follow history and show how the nobility of Europe limited commissions in the army to those of blue blood, how in turn preachers, lawyers, doctors, dentists, and in this country only a few months ago accountants have got legislatures to pass laws prohibiting individuals to practice certain occupations unless granted certificates of qualification by those already earning their living in it.

Photography, since it is not a profession, has no protective training course; not being a trade, it has no prohibitive apprenticeship system; not being a business, it needs no large capital in the hands of the novitiate before he can start out on his career. It is a free-for-all occupation into which may come the derelicts and rejects from all the professions, the scabs of the trade unions and the unskilled laborer who can not find a resting place in the turmoil of the industrial world. It is the haven of refuge for the destitute one whose friends get rid of him by clubbing together and set him out on a new career in good shape by lending him from $50 to $100.

Charity is a mighty good thing, especially at home. There is no special reason why photography should be the only dumping ground for unfortunates, no reason that I know of why it should be a dumping ground at all. Just so long as those most interested are willing to stand this kind of thing, just so long will the outside world be willing it should go on, for it relieves them of a whole lot of undesirable people. Before scattering charity broadcast over the world, take care of yourself, your family, your occupation as against all comers. Obey the law of the jungle, which demands protection of the group in which we are interested before everything else. Photography lingers on the stays as a relic of the ancient times when business men fought the members of their own group, and the impecunious condition of the average photographer easily demonstrates how unprofitable is such conduct. It is an anachronism in 1904, for one may search the whole world over for a parallel case and fail to find it until one discovers another lot of photographers.

Truly, it is time to organize, and in next issue I will try to show how it can be done. The plan I will then give was outlined before the convention of the Illinois photographers, adopted enthusiastically, and in ten minutes $300 was subscribed by those present toward paying the preliminary expenses.

F. Dundas Todd.

"When it is up to me I always try to go the other fellow one better," so said a very successful man to the editor one day. If you are a sharp-focus sharp it is up to you to take part in the sharp-focus competition described on page 166, and go the fuzzy worker one better. He has shown what he can do. Now it is your turn.

PICTORIAL COMPETITION No. 72.

Waterscapes lend themselves readily to pictorial photography, probably because of the variety of the material. As I have often said, the keynote to pictorial success lies in the blessed word "variety" and we find this idea largely embodied in land, vegetation, water and sky, all these being very naturally arranged in masses. The beauty of nature largely consists of profusion, but when water is present she also indulges in arrangement, the fundamental principle of composition. In rendering such subjects the great point to be considered by the photographer is atmosphere, and this is where he most frequently falls down, for I regret to say very few photographers of landscape subjects show decidedly the three planes of foreground, middle distance and distance.

The following are the judges' awards:

First Prize.— W. H. Porterfield, 100 Lakeview avenue, Buffalo, New York.

Second Prize.— Mrs. E. W. Willard, 21 South Prospect street, Grand Rapids, Michigan.

Third Prize.— Charles Vandervelde, 341 East Bridge street, Grand Rapids, Michigan.

SPECIAL MENTION.

Sara D. Holm, J. R. Iglick, R. E. Weeks, John Chislett.

PARTICULARS OF WINNING PICTURES.

First Prize.— Made 5 P.M. in August. ½ sec. *f*/8 on Cramer Iso plate 4 by 5 size. Enlarged and printed in gray carbon.

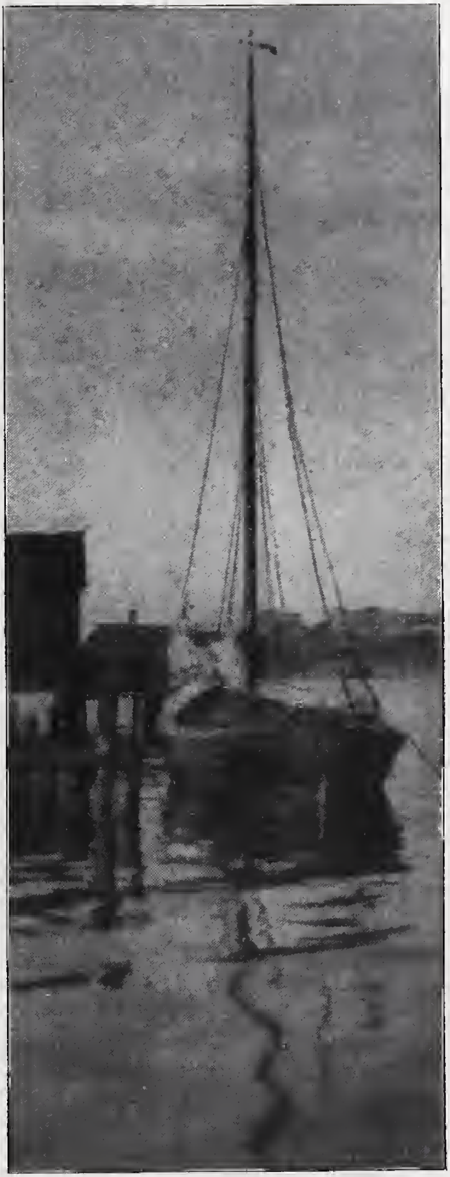
Second Prize.— Taken in August, 4 P.M.; bright sun; on Seed 27 plate. Exposure 1-25 sec. with stop *f*/16.

Third Prize.— Made in July at 4 P.M. Clear sky, on Seed L. O. plate. Exposure 1-25 sec. with *f*/16. Printed on special rough Velox.

CRITICISM.

After what has been said in the introduction little need be added, as every one can see the essential I have mentioned, including the atmospheric effect or softening of the distance as compared with the foreground.

The second-prize picture is another good study in spacing and atmospheric effect, as is also the third-prize picture, though unfortunately the latter suffers dreadfully in the reproduction.



Mrs. E. W. Willard, Grand Rapids, Mich.

SECOND PRIZE.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the

sender's name and address, *but nothing else.* The outside of the package in addition to our address, may bear that of sender. Accompanying a letter or postcard should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.

2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.

3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.

Second—Books to the value of $2.50.

Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

FUTURE COMPETITIONS.

Competition No. 74 — Domestic animals. Closes June 30.

Competition No. 75—Genre pictures, or pictures that tell a story. Closes July 31.

Competition No. 76 — Branch of a tree with leaves, with special consideration of decorative effect. Closes August 31.

Competition No. 77 —"At Home" portraiture, that is, portraits not made in a studio. Closes September 30.

Competition No. 78 — Snap-shop pictures. Closes October 31.

Competition No. 79 — Landscapes. Closes November 30.

Competition No. 80 — Flower pictures. Closes December 31.

A SHARP-FOCUS COMPETITION.

Just to give sharp-focus cranks a chance to show what they can do, Competition No. 81, closing on December 31, will be a competition for sharp-focus landscapes or waterscape subjects. The judging shall be for pictorial quality as before, but no picture will be admitted to the contest unless every object in it be clearly defined. Every reader who has ever placed a kick direct with the editor or who has made remarks about the fuzziness of the prize pictures is in honor bound to compete. Mr. Kicker, it is up to you to make good.

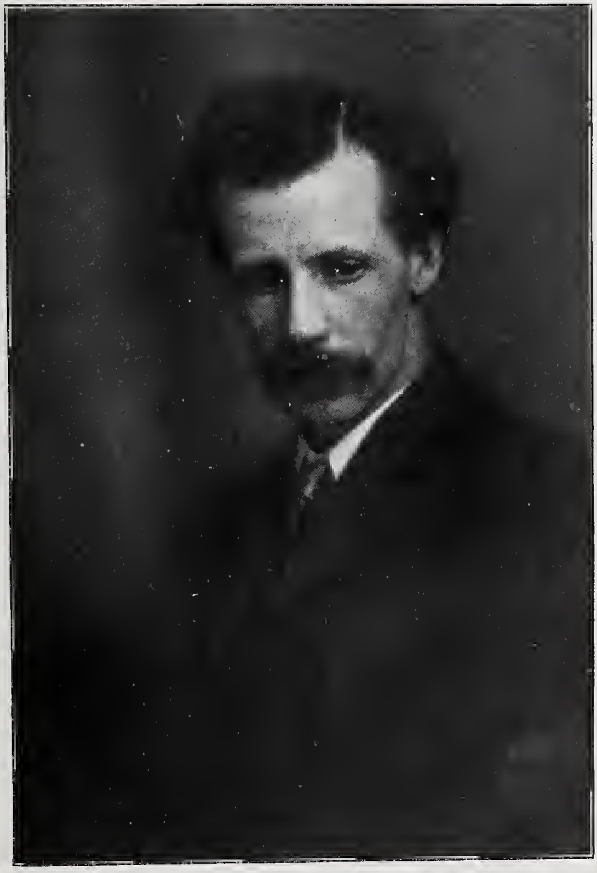
PROFESSIONAL PORTRAIT COMPETITION NO. 5.

Since I last wrote in these columns I have wandered a few hundred miles, seen many varieties of professional portraiture and talked with many professional photographers, so that I have had considerable opportunity of estimating just exactly the feelings of the fraternity on what is being aimed at in these competitions. Without exception one and all agree they are a good thing and very educative. They also say unanimously that the average customer would not take delivery of the prize-winning pictures, but on the other hand they point to the fact that the work that was deliverable five years ago would not be accepted to-day and therefore it behooved every photographer to know more than his customers if he intended to be able to turn out uniformly the grade of goods insisted upon.

Let me take a specific case. I do not believe any photographer in the country has a class of patrons who will accept a more artistic class of work than does Strauss, of St. Louis, and it may safely be said that the customers of the average photographer would decline point blank to pay for the kind of pictures he readily sells. As one photographer remarked to me not long ago, his people admired an artistic portrait of somebody else, but wanted commonplace portraits of themselves, so apparently one needs to be of decided artistic taste in order to break away from conventional ideas, to rebel against the usual thing. When I was last in the Strauss studio I picked out from a heap of specimens of his work what I considered the best half dozen portraits there, judged by pictorial quality alone. After they had been arranged, side by side, Mr. Strauss asked me, with a quizzical look, to guess how much money he had made out of them. I could not tell, so at length I was informed that five of them had been rejected while from the sixth only $25 had been drawn. Then to cap the whole thing he said that if I would take the same number of prints at random from the heap he could prove that he had made at least $500 from them.

The point of the story is this — his patrons willingly pay big prices for work that is much superior to what is turned out in the average gallery, but they will not pay one cent for the finest portraiture possible. But a few years ago he was glad to get from $6 to $10 for much more commonplace work, but by showing on his walls portraits superior to what his regular trade considered good he gradually developed his customers' taste to his ultimate pleasure and profit. Following out the same idea he still makes an occasional fine thing for his reception-room, believing that at no distant date his patrons will advance to it as before, with the same cheerful effects on his bankbook.

After all has been said and done the average photographer, perhaps unintentionally, does the very same thing, for what are his show case and reception-room specimens but what in his estimation are the most artistic things he has recently made. He is trying to appeal to the finer tastes of his patrons, though alas, his efforts are too frequently rather crude, on account of his lamentable ignorance of the elementary principles of art.



FIRST PRIZE.

At the Illinois State convention one point was brought out and enlarged upon again and again much to my satisfaction. It was this — don't be an imitator. Get hold of the recognized pictorial principles, which are everybody's property if they will, just as are the rules of grammar, but when you come to apply them cut loose from imitations and be yourself.

There is an impression abroad that I prefer out-of-focus, dull, dark pictures. I emphatically don't. I enjoy living, and am looking for sunshine and happiness every minute of the day, but when I come to judge pictures I have to weigh the respective merits of each on the basis of motive, composition, lighting, tone and thought expression, and I patiently await the time when some one of genius will arise in photography who will show us how to secure all these without sacrificing that most wonderful power possessed by the photographic lens — the rendering of texture. Here is a problem deserving the consideration of master minds, and I urge my readers to wrestle with it.

The first-prize picture is a portrait of the winner, and I am certain one and all of my readers will be delighted to get acquainted with him, for his name is rarely absent from the pictorial competition prize lists. Kind readers, allow me to present to you one of the most modest, unassuming and kindly of men, a rare landscape photographer, a sympathetic lover of nature, J. H. Field, of Berlin, Wisconsin. For many hours every day he makes commonplace portraits for people who prefer that kind of thing, but since he wants some joy in his profession, he gets up before the lark, sallies out with his camera and before the average individual is getting out of bed he is catching the soft gray effects that accompany the dawn. Some day he hopes his little community will advance to his plane, and then he will be happy the whole day long, but till that fortunate day arrives he means to make his morning hours a joy and so begin the day right.

I presume this is an example of self portraiture, and therefore all the more creditable. All my readers can see the fine varied spacing, the masses, consisting of head, body and background. I would like to draw special attention to the latter because so many seem to be unable to formulate a rule for its use. In this portrait, and also in the second-prize one, both ends of the light scale are used. The light end is found in Mr. Field's face, while in the second-prize portrait it is found in face, shirt front and cuffs. The dark end of the scale is found in the clothes, and the problem is how to bind these extremes agreeably together. The background does the trick, for being half-tone it occupies the middle point between the white and the black. Few photographers know how to use a background and it pleases me to see at least two who can place it aright.

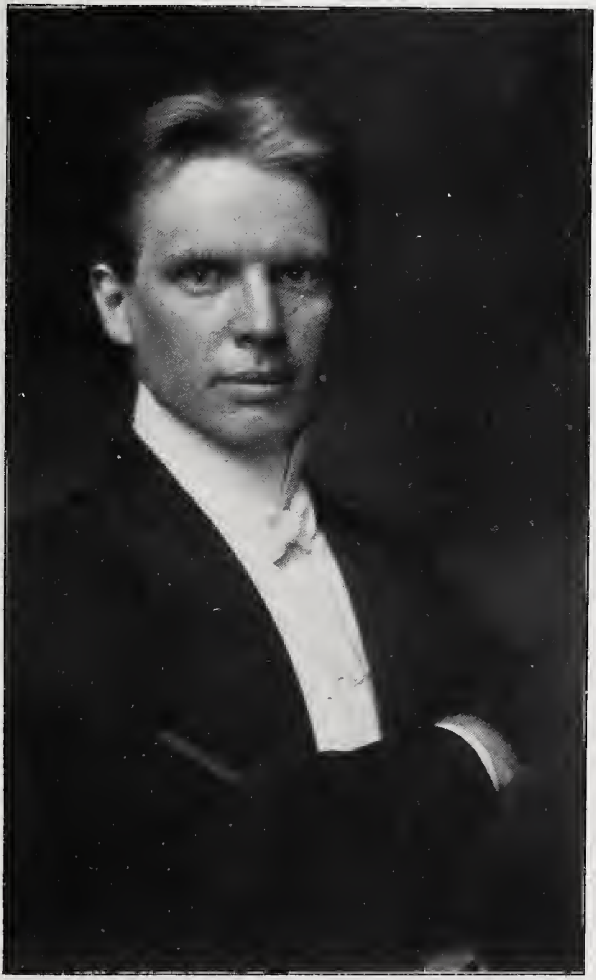
It is interesting in this portrait to read Mr. Field's estimate of himself. The centering of the light on the brow indicates ability, the slight inclination of the head and the downward plane of the eyes suggest the modesty and contemplation that those who know him recognize as the predominant features of his character.

The second-prize portrait is by a photographer in a Western town of under four thousand population. It is more on the lines of the ordinary photograph than is the winner of the first prize, but the maker of it displayed the same taste in laying out the lines and spaces, in harmonizing the lights and darks by choice of background, and in his method of lighting the face and figure. He had to handle a young man of strong, vigorous character, and so he lights and poses accordingly. I would ask my readers to specially note how expression is determined by the relationship of eyes, head and body, comparing particularly Mr. Field's portrait with the one under consideration. Also see how the angle made by the shoulder line tells a story — the unassertive outline in the one, the aggressive horizontal lines in the other. Truly portraiture is not limited to features alone — the whole body talks.

The winer of the third-prize picture is from a smaller town in the same State. It is very largely his subtle tone rendering, something I am afraid that will reproduce badly, that places him in the prize-winning list. I have decided leanings toward portraits that have plenty of light in the eyes, and therefore wish this picture had been so fashioned, but I can not get beyond the good lines and fine gradation shown here.

COMMENDABLE.

S. L. G.— You have put an old head on young shoulders.



SECOND PRIZE.

Van F.— A beautiful specimen of technical skill, a first-rate portrait to sell to the customer, but pictorially the dress should be toned down so as to concentrate interest on the head.

Leonard.— A fine head of a professional man, but I think he should not be represented reading an ordinary newspaper; besides, the latter is too much in evidence. You run too much to dark backgrounds. Try one whose tone value is midway between head and clothes.

Newton.— Figure of child is in beautiful tone, but background is so black as to be oppressive.

Pleas.— Face is almost overmodeled, not by retouching pencil but in lighting. There is a lack of force about your work — why not cut loose a little bit.

Mott.— A bit of fine tone quality, but in too low a key, with the result that the portrait is a little unpleasant.

Cowles.—A charmingly natural child portrait.

E. E. G.— Background too dark for subject; lighting should be a trifle more from the front so as to make cheek in shadow project backward instead of forward.

Gleerup.— This is a fine face that has evidently inspired you to do your best, but you have the narrow side next lens, resulting in unpleasant perspective. You have a good feeling for tone.

C. A. E.— No idea of tone at all.

Richter.— A poorly lit face, showing "dead" eyes due to top light. Clothes underexposed. Junction of background with floor is painfully evident. The drapery on the floor is absurd. Try and make a picture of a healthy, happy boy.

Morgan.— You are on right lines, but your efforts are crude. The white spot on background is not good.

Berlin.—There is much to commend in your work, but your chief defect is in the background which is just the same tone as the face; were it darker it would tie the black clothes and light face better.

Borry.— Fine technical work, but fur is too much in evidence. Background is too near in tone to the face.

W. L. M.— The composition consists of a white triangle supporting a round ball on which is resting a black square. You should study elementary composition.

Z. (Iowa).— You are fairly lost in the woods. Just stop trying to imitate and be yourself.

Jukes.— The view of man's face should be profile — not almost. Show detail in side of head. I do not like the blending into deep black behind the figure because the lines lead nowhere. Think a long time before you use the vignetter.

FILM PACK.

The Rochester Optical Company announces that by the middle of June it will be in a position to supply users of 5 by 7 cameras with film pack adapters and film packs, such as are now used in the smaller instruments.

AMIDOL.

The amateur who uses pyro or who attempts to keep it in a combined condition, that is, mixed with water and combined with sulphite and acid in the usual way, is constantly doomed to the disappointment of finding his developer which he mixed so carefully two weeks ago, gone brown or black and useless.

It is no small matter to the amateur to use a whole ounce of good pyro mixed according to directions and find after trying various formulas that it will not keep. Disappointments of this kind repeated time after time led the writer to experimenting with other developers and he has found a certain developer, so handy and of such convenience and good-keeping qualities, that he is tempted to suggest to brother amateurs that they try the following:

Get a one-pound bottle of Lud's sulphite (dry) and one ounce of Amidol. When developing plates take

Water	3½ ounces
Sulphite (Seed's)	50 grains
Amidol	10 grains
10 per cent sol. bromid..	4 drops

Time factor 6-7.

When developing Ortho paper or other gas-light paper, take

Water	4 ounces
Sulphite	30 grains
Amidol	10 grains
10 per cent sol. bromid..	4 drops

These quantities I find about suit the wants of an amateur. The powders are only two in number and are easy mixed, keep perfectly and satisfy the feeling that one wants to mix one's own chemicals and not depend on "something liquid in a bottle."

In mixing the sulphite with water the writer finds that if a spoon is used to stir the water rapidly as the sulphite is poured in the powder dissolves almost instantly, and there is no caking in the bottom, as each particle is continually surrounded by water and has no chance to adhere to its neighbor. With the Amidol it is the same.

One minute is sufficient to prepare the developer and one feels that it is fresh and at its best. When used pour the developer into a spare bottle and use a little of it with new developer when mixed if you have it on hand. Keep the bottle filled with the last-used developer by emptying out the old developer and introducing the newer and making up any space in the bottle from the oldest developer, and throwing the rest away.

To my mind this method reduces developing to the simplest. The solution does not stain the fingers or plates, keeps well and 3½ ounces of new developer will develop four to six 5 by 7 plates and still have some value as old developer.

I enclose a print in Ortho paper made by the above formula from a snapshot negative developed with Amidol as above. I am going to try it as a tank developer next and will let you know the results. M. MEIGS.

[The print enclosed is first-rate, and evidently the negative from which it was made was as good.—EDITOR.]

THE HOMOCENTRIC LENS.

Some months ago I had the pleasure of receiving from the Rochester Optical Company an 8½-inch focus Homocentric lens to try. I was rather interested in this instrument because when I visited the old country five years ago I found Ross & Co. nearing the final stages of a new anastigmatic lens that on the testing machine gave great promise. I awaited its advent for quite a while, but apparently it was never put on the market, and instead, at quite an interval of time, the Homocentric made its appearance. I naturally argued that since Ross & Co. preferred the new type to the one I had seen, and since that was a very fine instrument this one must be specially good.

On receipt of the Homocentric I at once tried it for flatness of field, and to my delight found it covered a much greater area than was claimed for it. Then I examined it for one peculiar quality for which Ross lenses are famous, the suddenness with which it comes to focus. One is never in doubt about the sharpness when using a lens made by this firm, for the image is either sharp or it is not when one looks on the focusing screen, and it pleased me to find the Homocentric behaved in this respect like all other Ross lenses.

THIRD PRIZE.

Here my experiments stopped, and I am happy to be able to continue the story in the words of an amateur who makes the testing of lenses both theoretically and practically his hobby. In experimenting with his Homocentric he found an apparent defect he could not account for and so wrote me about it. Reference is made to this point in his letter.

DEAR MR. TODD,— I am obliged to you for your favor of the 7th inst. I hope you will pardon me for intruding on your limited time.

Since writing you regarding the Homocentric lens, I have given it a thorough trial and am so well pleased with it that I remitted the price to-day. It has the finest correction for astigmatism and curvature of field. Focused at 16 inches on sheet of clear print, not a trace of marginal distortion appears on 5 by 7 plate which is fully covered. I find that the reflections mentioned in my former letter are not an inherent defect in this lens but due to halation affecting the plate. I have exposed the same kind of plates on same subject with ——— and ——— lenses and find the same thing appearing in all of them — a mass of buildings with a cleft of clear sky above the center. A few exposures with the lens in close angular relations with the sun shows that it is not afraid to look that luminary honestly in the face.

Thanking you for your letter and trusting I may be able to reciprocate.

Very truly yours,

———

AMERICAN AMATEURS ABROAD.

The *Photo-Era,* 170 Sumner street, Boston, Massachusetts, announces a personally conducted tour through Europe in connection with the Bureau of University Travel. The trip extends from June 18 to September 18, and will cost $625. For the best set of negatives made during the trip a sum equal to the cost of it will be given to the winner.

THE good qualities of the Hammer Dry Plate have never been more in evidence than they are at the present time. Enlarged facilities for their manufacture and the most perfect modern machinery, coupled with a rigid inspection of every batch of plates manufactured, has resulted in a product of uniformly good quality throughout. Hammer plates are made in such variety of speeds and working quality as to fit them to every requirement of modern photography, either in the field or studio. The announcements of this firm in our advertising pages are full of interest from month to month and are serving to introduce the Hammer plates to many who have not known them before. This introduction is in most cases all that is necessary; the plates do the rest and the demands upon the capacity of the factories are steadily increasing.

HOW TO MAKE POSTCARDS DRY FLAT.

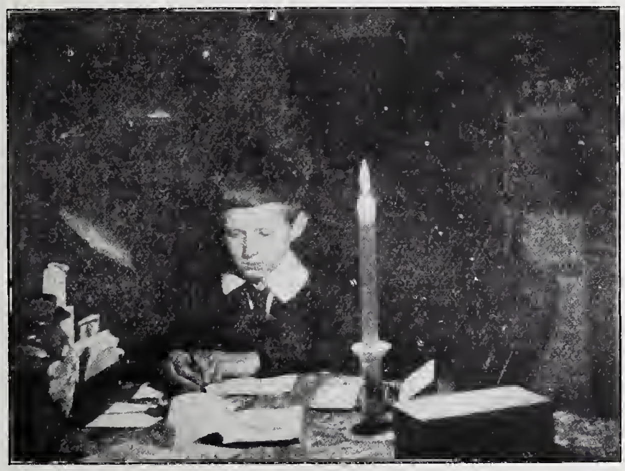
Every one who has printed postcards knows the inconvenient way they have of curling when dry. After many experiments I have succeeded in drying them almost flat, and as the process employed requires no expense, skill or trouble, I trust that it will prove of interest to printers of postcards. The procedure is as follows: Two pieces of wood are tacked on a piece of board four inches apart (preferably putting a sheet of blotting-paper under, so as to absorb the water that drains from the postcards). When the postcards are washed, take them out of the final water and place them one by one between the two pieces of wood in a curved way, film upwards. Allow them to stay so until thoroughly dry, then take them off, when they will after a little while flatten themselves. If they are wanted quickly, put them under some weight, say between two books. I have dried postcards more or less flat in other ways, but this one has proved to be the simplest and cleanest.— *John Mallia, in the Bromide Monthly.*

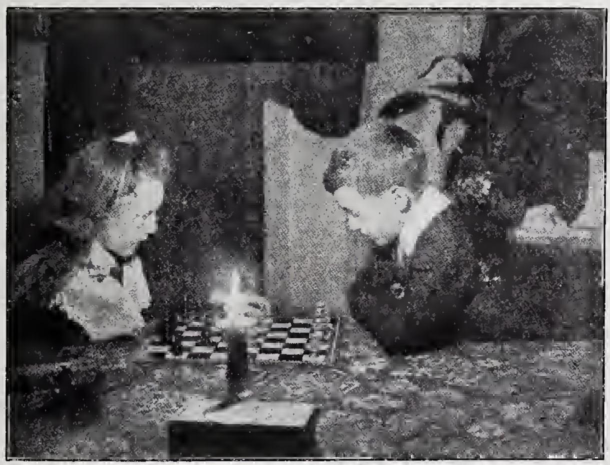
RAPID ENAMELING.

"Prints on P. O. P. may be rapidly enameled in the following way: Wash the prints free from hypo and place in a solution of 20 grains of chrome alum to 20 ounces of water for from five to ten minutes. Do not exceed strength given, and use a fresh quantity for each batch. Wash the prints for a short time. Flood the enameling material with water, and steadily lower the wet prints from one side, so as to drive out air-bubbles as each print is brought into contact. Place a sheet of mackintosh cloth, or wet white paper, over the prints and squeegee once firmly. Remove the mackintosh, and if necessary take up any superfluous moisture with white blotting-paper. The prints on the enameling material may then be placed round a fire to dry, their backs being toward the source of heat. Of course, the enameling material must be thoroughly cleaned, and, in the case of glass, polished with talc."

CANDLE-LIGHT PHOTOGRAPHY.

"Candle-light" pictures are now attracting a considerable amount of attention, and the object of the present article is to show that such pictures may be produced by any intelligent worker by means of commonplace and inexpensive materials, and with scarcely any addition to the outfit of the ordinary amateur. It is well to state that the writer has absolutely no knowledge of the methods employed by any other worker, but considers it probable that the method here set forth is identical in principle with that employed in the production of the pictures previously put before the public.





The following are the materials used by the writer: Quarter-plate stand camera, with pneumatic release shutter, stop *f* 11: iso. plates; any ordinary developer; common candlestick, with candle lighted; shaded magnesium lamp, herein described; for each exposure, 5-inch magnesium ribbon, doubled 2½ inches and twisted together; dark curtain in line with camera and light, well away from the subject.

The easiest and most convenient method of working is to suspend the lamp over a table by a gas bracket having a vertical slide, as shown in Fig. 4, so that it can be lowered to any position required without the slightest trouble. In order to obtain the shadows at a proper angle from the flame of the candle, the strip of magnesium must be perfectly perpendicular to the candle, and as near to the actual point of its flame as possible, care being taken that the point does not disappear behind the back screen of the lamp. To prevent this, have the wick of the candle cut down close to the wax immediately before making the exposure. To prevent the magnesium light bursting out below the screen, its lowest point must be about one inch above the bottom margin of the lamp screen (Figs. 2 and 3).

Fig, 1.

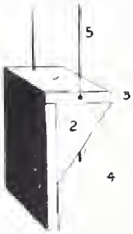


Fig. 2.

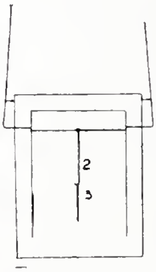


Fig. 3.

Fig. 1.— Back view of box, 7 by 5 inches, facing camera.

Fig. 2.— Side view. 1. Back, dead black paper. 2. Cardboard box, lower part cut away. 3. Hollow cardboard box lid. 4. Magnesium ribbon, 5 inches, doubled to 2½ inches. 5. Thin wire or black string to hang up by.

Fig. 3.— Inside view of shaded lamp facing the objects to be photographed. 1. Cross wire. 2. Wire for suspending the magnesium ribbon. 3. Ribbon.

No light object must be placed between the lamp and the dark curtain on the opposite side of the room, or the outline of the lamp shade would be at once revealed.

To focus properly, it will be necessary to place the lighted candle at the position to be occupied by the sitter temporarily for the purpose, as it might otherwise happen that the sitter would be out of focus. When all is arranged for an exposure, hold the bulb release in one hand while the tip of the magnesium is lighted by a taper with the other hand, being careful not to disturb the shaded lamp or the flame of the candle in doing so. The exposure will be about two and a half seconds. I may say that rapid plates are an absolute necessity, as, with an exposure of, say, six seconds, the white smoke from the magnesium would escape off the sides of the lamp, and a dense white cloud would be the result, and would, of course, spoil the effect.

If it is desired to produce the whole of the surroundings in the picture, the exposure should be made by daylight with the blinds drawn, care being taken to place the black side of the lamp (Fig. 1) away from the light of the windows, and that the outline of the lamp does not fall on any light object, but on a dark curtain or screen placed for the purpose.

Most of the examples sent herewith were taken without admission of daylight.

Suggestions for a more elaborate form of lamp will, no doubt, occur to each worker. A smaller size of lamp screen might possibly serve if a larger stop be used and half the exposure stated be given.

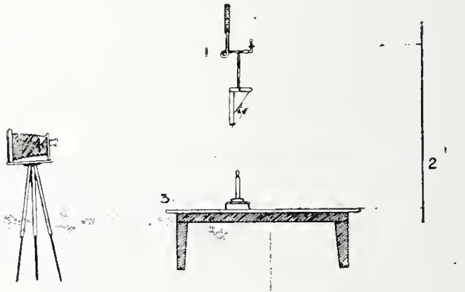


Fig. 4.

1. Gas bracket over table to which the lamp may be attached. 2. Black curtain or screen of any kind to be in direct line from the shaded lamp and the camera; the black screen may be any distance away. 3. Dotted line simply to show the view covered by the magnesium light.

It will be observed that the shaded lamp is in full view in the field covered by the camera, thus enabling the shadows to be cast at a fairly accurate angle from the actual flame of the candle. The picture of the chessboard, here reproduced, will show the defect caused by having the lamp too far above the candle, the shadow of the boy's ear especially marking the direction from which the light emanates. This picture has a special interest to the writer from the fact of its being the very first experiment after working out the theory in the armchair. In Fig. 4 the artist has drawn the shaded lamp a little too high.— *The Photographic News.*

JOHN BENTLEY.

PHOTOGRAPHY AT THE ST. LOUIS EXPOSITION.

The jurors of selection for the American exhibit at the World's Fair had no light task, for close on three thousand frames awaited their consideration,

Negative by Walter Zimmerman, Philadelphia.

THE SHELL GATHERERS.

every one of which had to be removed from its case and examined; last of all the accepted pictures had to be hung.

Before doing a thing the jury had a consultation with Colonel Ockerson, the director of the Liberal Arts building, as to their procedure. His instructions were very brief and to the point. "Give me either vacant space or an exhibition of American photography that will be as good or better than is exhibited by European nations."

We evidently were not expected to throw bouquets at anybody and we certainly did not. We started out with the idea of having two classes, one pictorial, the other technical, this having special reference to professional workers whose ability is controlled by the taste of their customers. In the pictorial class we hung a little over sixty frames, in the technical little more than one hundred. Latterly we formed a third class into which we put certain photographs that had features of special interest connected with them entirely apart from pictorial quality or technical excellence. For instance, a very fine set of portraits of natives of Alaska are to be found in this section, and many other pictures of similar character.

Before the work was all completed the photographic exhibits from Great Britain and Germany were in position and so we had opportunity to make comparisons. We feel that the American pictorial class is of a higher average than that of the exhibits mentioned. We humbly acknowledge having to take second place in landscape photography to the British exhibit, where the magnificent work of the late H. P. Robinson and his living successor, A. Horsley Hinton, stand in a class by themselves. Apart from these, America holds its own and we jurors will abide by any comparison frame for frame. We emphatically considered American portraiture superior to that of either of these two countries, and we are confident the American amateur has only to see the work of Robinson and Hinton to get inspiration that will enable him to hold his own.

The German exhibit we considered inferior pictorially to both that of Britain and this country. There is some fine technical excellence displayed by German workers, but artistic taste is evidenced only by some half dozen.

It has been broadly rumored that a certain body of photographic workers who refused to participate in the American photographic display had succeeded in getting the special privilege of sending their work direct to the arts building for the consideration of the art jury. In an English contemporary Mr. Stieglitz explains why the body of which he is the controlling figure refused to be represented, the reason being that the exposition authorities would not guarantee to hang at least one photograph in the Arts building. The directors refused any such guarantee, and very properly too, in my estimation, for no competent authority up to this moment has guaranteed that it is possible for photography to be a fine art. Assertions are one thing, proofs are something different, so when the opportunity to prove their fine language was given them this body failed to make good.

However, in his letter Mr. Stieglitz says, "Finally, a few weeks ago, this guarantee did arrive." Personally I would like first-rate to see this precious document, because at St. Louis we found the rules stood where they were before, and remember this was weeks after the letter was written; not only that, but the most recent information I have from a good source is to the effect that no such guarantees have been given Mr. Stieglitz or any one else.

Some dreams are true, most of them are not. F. Dundas Todd.

COMBINATION PRINTING.

The work of Mr. Horsley Hinton at the St. Louis Exposition, referred to above, is only possible as yet through his method of combination printing. We feel certain that all who see his pictures will at once desire to follow his methods, and so we would at this juncture refer our readers to his book on "Combination Printing," published as No. 59 of the Photo-Miniature Series.

A NEW DEVELOPMENT OF THE ART OF THE CAMERA.

The recent remarks of Mr. Vivian Yeo and Mr. J. W. Gordon on the subject of a new method of producing photographic prints having the effect of cameo reliefs has attracted widespread attention. A large number of letters have reached us from workers anxious to learn more of the process, and to these Mr. Gordon has been good enough to reply personally. In order to satisfy a wider circle of inquirers, however, we have invited Mr. Gordon to write us an article upon his discovery; and while — with needless modesty — he disclaims any wish to do this, he has very kindly furnished us with some notes and prints from which we have gathered the following facts.

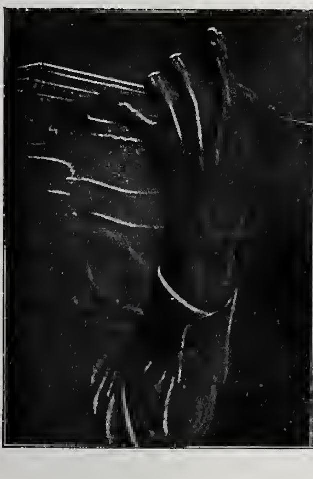


Fig. 3.

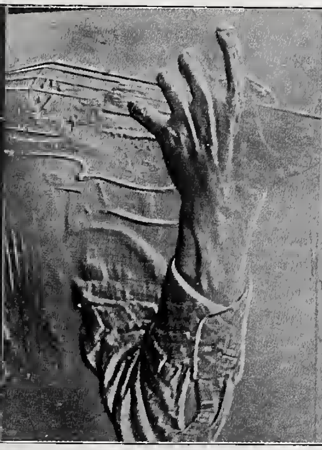


Fig. 2.

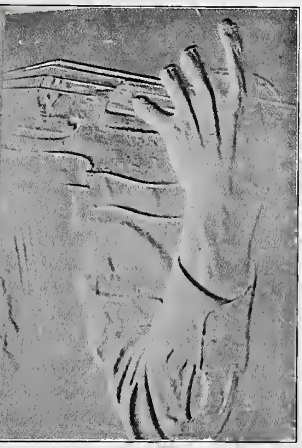


Fig. 1.

In the first place it would appear that, as so often happens in a matter of this kind, two independent workers have simultaneously lighted upon the same discovery; and in this connection, Mr. Gordon wishes it to be understood that he was quite unaware of Mr. Yeo's researches, and desires to express his regret that he fell into a misunderstanding which caused him to write of Mr. Yeo's communication in a strain not warranted by the facts of the case. We are sure, nevertheless, that those of our readers who recall the wording of Mr. Gordon's observations in the *Amateur Photographer* will agree that no apology on his part is needed. For some time previously, Mr. Gordon's prints had been seen in various stages of completion in the daylight-room at the Camera Club, and had elicited a good deal of inquiry and comment. Mr. Gordon had made no secret of his "find," and it was hardly to be wondered at that he supposed Mr. Yeo had been working from data garnered at the club. That this was not the case is merely another example of the phenomenon somewhat crudely expressed by the popular saying that "great minds jump."

Put briefly, Mr. Gordon's idea consists in superimposing a positive transparency upon the negative from which it was printed, and then printing through the two of them simultaneously. To produce the singularly interesting cameo-like effect noticeable in the illustrations, the two plates are placed together *slightly out of register*. Mr. Gordon places his plates film to film, and prints through them on to bromid paper by the aid of an enlarging lantern. Mr. Yeo (it will be recalled) advocates a mode of working with them glass to glass which is doubtless convenient for contact printing, when both components are on glass; but Mr. Gordon has not as yet tried this. His studies have been made either from a film negative or from plates placed film to film — as has already been mentioned — in a lantern.

This, then, is a rough outline of the idea; and the photographs reproduced herewith speak for themselves. Mr. Gordon, however, has not been satisfied to rest upon the laurels of his "happy thought." He has been experimenting with a view to discover the possibilities of control; and some of his productions are well worthy of attention by the artistic worker in search for variety.

The means of influencing the final result may be tabulated as follows:

(a) Varying the densities of the components through which the print is to be made.

(b) Adjusting their register so as to secure a particular degree of displacement.

(c) Varying exposure, development, etc., in the usual ways for the production of varying effects.

The results obtained are:

(a) The low-relief effects to which Mr. Yeo drew attention.

(b) The production of outline drawings.

(c) The accentuation of lights and shadows to which also attention was drawn in Mr. Yeo's article.

(d) The accentuation of selected details, i. e., retouching on a somewhat extended scale.

That these various ways of influencing the result give to photography a new character and materially increased capabilities, no one who has inspected Mr. Gordon's results (experimental though they still are) would deny. Indeed, we think the thanks of the whole camera world are due to him for the painstaking way in which he has worked out what was doubtless at first quite a casual discovery. Probably before now plenty of workers have happened to notice the peculiar effect produced by superposing a positive and a negative — or even double printing owing to a slip of the printing frame—but it needed the "seeing eye" to seize the hint and work out its value.

The introduction of strong outlines alone is a great power in the hands of the photographic artist. It enables him to produce a vivid picture with an economy of light and shade, and a uniformity of tone which contribute very appreciably to the harmony of a composition, and may almost be said to put the photographer in this particular on a par with the engraver. The pronounced drawing, too, adds interest to the picture; and the curious perfection of the drawing places the photograph at once on an equality with the finest handwork.

The accompanying specimen prints illustrate Mr. Gordon's main points, and may be described in a very few words.

Fig. 1 (a study from life of a hand with a violin) illustrates what may be called the "plaster of Paris cast" effect, which Mr. Yeo touched upon. In the composite from which this was printed the positive component was nearly equal in density to the negative one, though not quite. It will be observed that the modeling is shown by extremely delicate gradations of shading, and the main features of the contour are given by drawing. Yet there is no lack of boldness, and the relief is of the stereoscopic order. The index finger, it should be mentioned, was unsteady, producing an imperfect outline; but attention may be directed to the drawing of the foreshortened little finger.

Fig. 2 is a similar study on the same lines as Fig. 1, but here the positive component is less dense, and in the "foreground" part there is no appreciable loss of roundness, although the hand perhaps looks a trifle thinner than in nature. This study illustrates what is stated above about the interest which *outlines* lend to a picture and the harmony of tone which results from using outlines to accentuate the high lights and deep shadows. Note also the effect produced by expressing the violin as a mere outline drawing.

Fig. 3 is an effect of even lower relief than Fig. 1. It is printed from a combination in which the two components are to all intents and purposes equal in density. This effect is suggestive rather of a cameo on embossed leather than of a plaster cast. Its value for purely decorative work (to which every-day photography is not generally adapted) will at once be apparent.

Fig. 4 is an ordinary print made in the usual way from the original negative of the bust. Although the picture gives the impression of being of a marble bust, this is mainly due to using a large aperture in the enlarging lantern, which has softened the fine detail of the original negative; for as a matter of fact the bust is plaster, and painted. Figs. 5 and 6 bring out this fact, and were from the same original as Fig. 4, the displacement in the composite being so adjusted as to accentuate the surface markings. The extent, by the way, to which particular features can be thus brought out at the expense of others is very remarkable. A portrait with which Mr. Gordon has experimented yields four distinct prints, as follows: (1) A hard black and white print. This is taken from the original unsupplemented negative. (2) A very soft smooth print, full of detail and rather flat. This is from the negative compounded with a thin positive superposed on it in exact register. (3) A very strong, coarse print, in which the texture of the skin is rendered with repulsive minuteness. This is from the same components as the last-mentioned, the positive being very slightly displaced along the direction of the lighting. (4) A still coarser effect, in which the features look swollen and the muscular masses stand out in strong relief. This is from the same components, the displacement only being greater.—*The Amateur Photographer.*

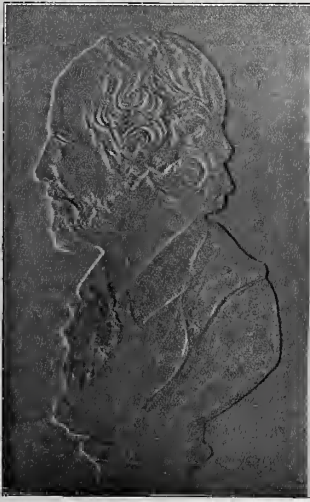


Fig. 5.

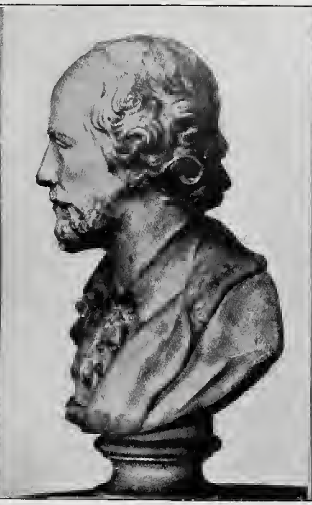


Fig. 4.

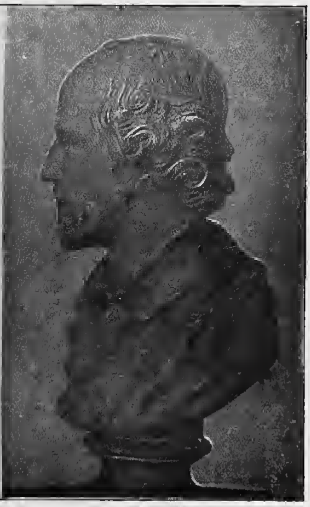


Fig. 6.

One of the exhibits at St. Louis this summer will be a collection of three hundred fine photographs, the work of Sir John Benjamin Stone, M. P., of The Grange, Ordington, a town near Birmingham. The photographs are careful studies, giving a large and accurate knowledge of the history, politics, antiquities, social life, customs and traditions of Great Britain. Sir John's collection is considered the most complete and varied ever made by any photographer not a professional, and the three hundred chosen for exhibition in the Liberal Arts building at St. Louis will comprise of themselves one-third of the British official exhibit in photography. Sir John Benjamin Stone's work, especially that portion Americans are to see, will be fully described in the May *Century* by George F. Parker, formerly United States consul in Birmingham. His "History by Camera" will be illustrated with examples from the exhibit.

ABOUT "INFINITY FOCUS."

It is frequently useful to know the distance at and beyond which all objects will be in focus when using a lens of known focal length and a given stop. To obtain the requisite information most photographers have recourse to the published tables — if they are at hand — but the writer suggests a simpler method which he worked out, and has now used successfully for some years. It consists in marking each lens with its "constant," which only requires to be divided by the *f* number of the stop to give the so-called infinity focus or distance beyond which all objects will be in focus.

The constant of any lens is obtained thus:

Let fa = focal aperture or stop.
F = equivalent focus of lens, in inches,
K = required constant ;

Then: $\frac{F^2 \text{x } 100}{\text{fa x } 12}$ or $\frac{K}{\text{fa}}$ = infinity focus in feet,
and $K = F^2 \text{ x } 8\ 33$.

The following is a list of constants calculated for a confusion disk of 1-100 inch:

Equivalent focus of lens in inches.	K.	Equivalent focus of lens in inches.	K.
3	75	6.5	352
3.5	102	7.0	408
4.0	133	7.5	469
4.5	168	8.0	533
5.0	208	8.5	602
5.5	252	9.0	675
6.0	300	10.0	833

Example:

Required, constant and infinity focus of 6 in. lens at *f* 6.
$K = F^2 \text{ x } 8.33 = (6 \text{ x } 6 \text{ x } 8.33)\ 299.8$ (say 300).
Infinity focus $= \frac{K}{\text{fa}} = \frac{300}{6} = 50$ feet.

The infinity foci for other stops will be:

Stops.	*f* 6	*f* 8	*f* 11.3	*f* 16	*f* 22.6	*f* 32	*f* 45
Infinity given in ft.	50	37.5	26.5	18.7	13 3	9.3	6.6

— *E. T. Ruthven-Murray, M. I. M. E., M. I. E. E., in British Journal of Photography.*

DON'T forget about the sharp-focus competition intimated on page 166. Get the dirt off your finest lenses, sharpen your sharpest stop and show that fuzziness is not a necessity in a picture.

UNIVERSAL EXPOSITION, ST. LOUIS, 1904.

DEPARTMENT OF LIBERAL ARTS.

CIRCULAR NO. 10.

For the information of the army of devotees of the camera who will attend the exposition, I take pleasure in quoting the following ruling of the exposition company as to the use of cameras on the grounds:

"Visitors to the Exposition will be permitted to take hand cameras into the grounds and use them without charge."

With regard to exhibits, the rule adopted is as follows:

"No exhibit or object upon exhibition may be sketched, copied or reproduced in any way whatever without the permission of the exhibitor, approved by the director of exhibits."

J. A. OCKERSON,
Chief Department of Liberal Arts.

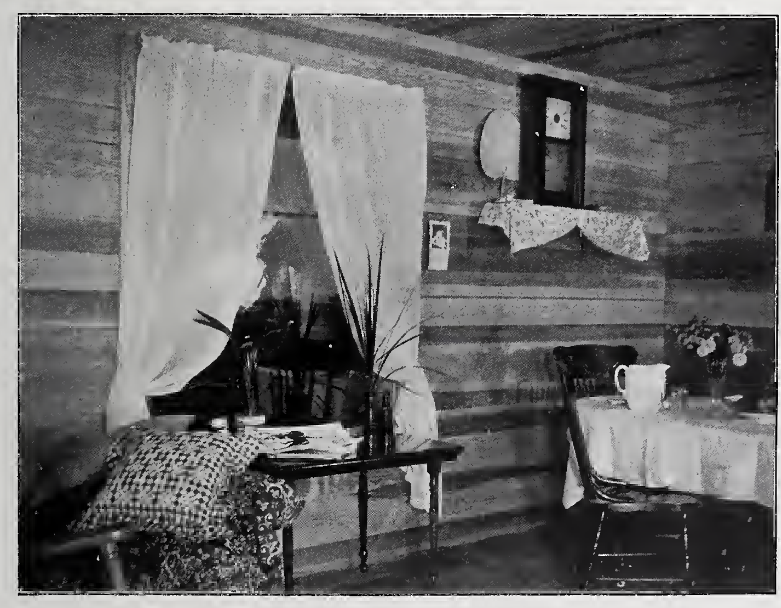
A DRY HYDROQUINONE DEVELOPER.

Dealers anxious to put a dry powder form developer on the market may be glad to have the following formula from the *Photographische Industrie.* It is prepared by taking eight ounces of pure sodium sulphite and dissolving them in ten ounces of distilled water by heating in a porcelain evaporating dish. When dissolved, two ounces of hydroquinone and one dram of a one-half per cent solution of eosin are added. The mixture is allowed to boil, and sixteen ounces of potassium carbonate added. The liquid in the dish is heated over a spirit lamp or Bunsen burner, and stirred until a thin skin forms on the surface. It should then be poured into a hot porcelain dish on a sand bath, and dried off at a temperature of 175 degrees. In about an hour it will be sufficiently solid to be cut into pieces, and in about six hours the drying is complete. It is absolutely necessary that the developer should be perfectly dry, or it will not keep well. It should be stored in a well-stoppered bottle, and will then keep indefinitely. For use twenty-four grains of the dry developer to one ounce of water should be taken.

LAMP-LIGHT EXPOSURES.

Mr. Thompson's article "Submit Your Ideas for the Benefit of Others," in the January PHOTO-BEACON led me to wonder if in my very amateurish photographic experience I had acquired any knowledge that would be helpful to others of my rank in picture-making.

Although my albums are filled with a variety of pictures, from that of the White House to one of the picturesque round tepee of a Sioux Indian, or the familiar Arch Rock at Mackinac to the peculiar Bad Land formations of the Dakotas, I find that my ideas, like so many of my pictures, are not home-made.



I will refer to one which, though not borrowed, I do not claim as original, for it is more than probable others have tried the same experiment. It is the photographing of interiors by the light of ordinary oil lamps.

Often the prettiest view of a room is toward a window, making daylight exposures impossible. This is likely to be the case in summer cottages. To me the lamp-light method is preferable to flashlight. Two or three lamps fitted with No. 2 burners, judiciously arranged as one would have the source of light, and from sixty to ninety minutes' exposure with the ordinary kodak, will give detail enough to gladden the heart of the amateur who happens to be interested in photographing interiors. Of course the time of exposure may be reduced by the use of more lamps, or those with larger burners.

FANNIE HOYT.

PRINTING IN TWO COLORS.

A most encouraging sign of the times is the revival in the interest of carbon as an artistic printing medium. This process has the distinction of being one of the oldest and simplest methods known to photographers and, with the possible exception of gum or ozotype, none permit of such wonderful latitude or charming effects.

It is the purpose of this article to stimulate interest in carbon printing in general, and particularly along the line of experiment conducted during the past year by Mr. G. Edwin Keller and the writer.

To make photographs in color has been the dream of photographers from time immemorial, and while this wonderful secret has not been wholly discovered, sufficient advancement has been made by a very simple process whereby sunlight and various color effects may be rendered with startling reality.

Before proceeding with this particular phase of the subject it is presumed the reader has an elementary knowledge of the ordinary carbon process, that is, being able to make prints in a single color. For the benefit of those who are obliged to start from the beginning. I would advise the purchase of a copy of the *Photo-Miniature* on "The Carbon Process," or a very exhaustive treatise will be found in the 1904 American Annual.

By careful study of either of these articles the novice will be in position to attempt the color proposition, which differs from the ordinary carbon print only in the preparation of the final support, and the superimposing of the color most appropriate to secure the desired effect.

Let us suppose that the "*piece de resistance*" be a moonlight effect over a body of water, such as is often made in the late afternoon, when the sky is gloriously decorated with golden edged clouds, and every wavelet reflects the splendor of the setting sun. We proceed with the operation of sizing the final support as described in the articles heretofore mentioned, but in addition we add a small quantity of chrome yellow (preferably tube colors) to the first coating, allowing this to dry thoroughly before proceeding further.

When this has been accomplished an extra coat of sizing (without the yellow) if smooth paper is used, or two coats for rough paper, and this operation is done. Then the exposure is made as in regular printing with the carbon (which of course has been previously sensitized). To get the best effect use a dark blue carbon tissue for this particular subject, because the blue, superimposed on yellow, renders a certain green which is very natural for night effects.

The transfer and development is carried on as in the regular carbon process. When completed the result will be a yellow sun (or moon) and high lights, while the shadows will range from delicate tints of slate gray to deep black in the distant landscape. A brush may be used in development to bring out or accentuate certain high lights, and when the print is finished and dried a coat of varnish completes the oil painting effect.

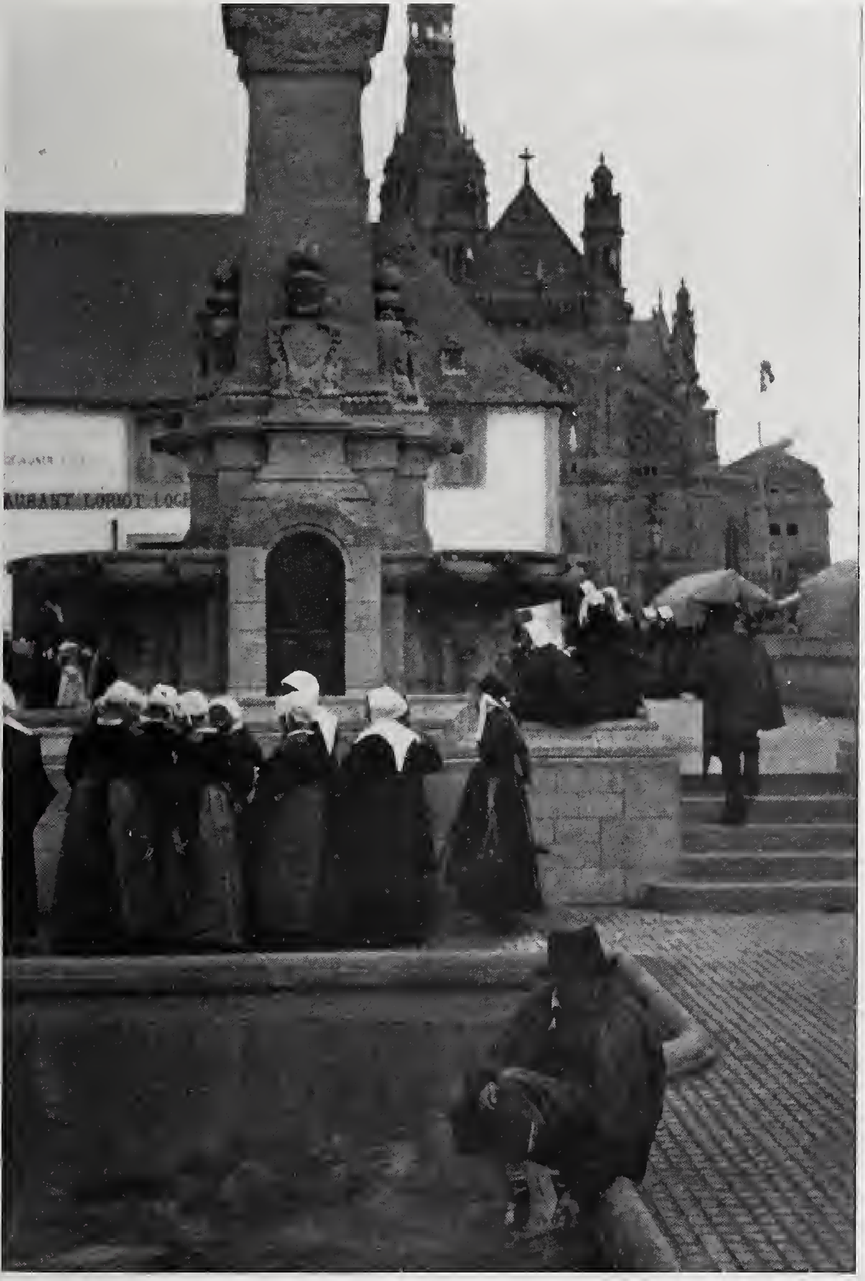
To produce flowers, such as yellow daisies and brown-eyed susans, the yellow and blue are recommended; for apple blossoms, etc., a pinkish support or background is used, together with black or green tissue. In all cases the principle is the same, but the artist must select the combination of colors best suited in his judgment to represent the subject. Canvas has been used very effectively in a number of instances and when given the finishing coat of varnish have so resembled oil paintings that a print of this kind was recently denied admission to a certain photographic exhibit.

Last, but not least, patience is a very necessary element in this, as in many other instances, but once a good print is gotten, the satisfaction therefrom fully repays all labor.

W. H. Porterfield.

The Elysian Camera Club, Hoboken, New Jersey, began a competition January 1, 1903, offering a cup to the member exhibiting the finest marine subject during the year, each member to be permitted to exhibit but one view. The cup has been awarded to Mr. William Peterson, who made the winning negative with a Bausch & Lomb plastigmat lens. The Bausch & Lomb Optical Company, Rochester, New York, would be glad to have the addresses of all photographers who win prizes with negatives made with their lenses, and to arrange with them for copies of the prize-winning prints.

Users of old style Infallible Exposure Meters may have them put into up-to-date shape for 50 cents by sending them to the Infallible Exposure Meter Company, Brooklyn, New York.



Negative by Walter Zimmerman, Philadelphia

IN BRITTANY.

HINTS FOR PICTURE-MAKERS.

STRONG AND WEAK POINTS IN A PICTURE.

Elaborate systems of strong and weak points have been industriously put forth, but to little or no practical purpose. Indeed, all elaborate systems tend to cramp rather than help the artistic sense. Principles rather than system are wanted.

Roughly summarized, the chief points are: Symmetry is not so interesting as asymmetry. Hence the center is a weak rather than a strong position. The chief light or shadow or object will lose some of its interest and force if placed centrally, unless matters are so arranged that this position is no longer such as to suggest symmetry. Again, the margins of a picture are weak, because one's interest is "brought up sharp," as it were, by these margins. Strong contrasts of light and shade, for instance, attract our attention. If such be at the margins, our attention is thus drawn there to find ourselves looking at the edge of the mount or frame.

ART AND ORDER.

The late H. P. Robinson gave photographers many valuable bits of advice and pregnant sayings. Not the least forceful was his trite aphorism, "A Work of Art Is a Work of Order." One has only to stroll through any gallery of good paintings to feel how true this is. In every case we are impressed with the feeling that the composition was carefully thought out — that the artist did not just "knock off a thumbnail sketch" of what happened to be before him. Chance snap-shotting and great art are as "the poles asunder." True enough, one does at times see snap-shots which are *suggestive* of well-thought-out compositions, but there is always lacking just that indescribable convincing something which, in a work of fine art, tells us that we are seeing a man's mental conceptions rather than his visual impressions. Selection, arrangement, design, intention, inclusion, omission, are all words which in part, but in part only, convey "something of that something" which makes and marks fine art and separates it from mere accident.

GLITTERING OBJECTS.

An eminent art writer gives to painters two bits of sound advice which apply with quite equal force to the photographer's craft. First he says, "Avoid subjects which glitter," for not only are they very difficult, but they are also seldom, if ever, satisfactory. How often have we all seen photographic attempts to portray the glittering, dancing sunlight on the dimpling ocean's surface. Has it ever struck you as a complete success? Did it not suggest spots of white paper, rather than leaping, sparkling sunlight? Its very essence is movement, and that the photograph has killed.

Again, those tiresome, small, bright patches of sky showing between the leafy openings in the summer-clad trees. True, they are not glittering lights in the ordinary sense, but they are of the same nature in their relative intensity. Or, again, consider the small wet patches of mud and sand, or clumps of wet seaweed or rock. These are quite still, and yet your camera fails to convey their natural appearance.

LOVE AND LABOR IN FINE ART.

Gambier Parry has very truly pointed out that fine art comes of the union of love and labor. Without love it has no true inwardness, no real motive, no reason for its existence; and without labor it can not be brought to perfection and fruitfulness.

The photographer here has a fine sermon text and one much needed. Were photographers only to deal with subjects that they truly love, we should not have the frequent waves of fashion in mud flats or gray days or silhouettes, or whatever may be "on" for the moment.

If we had a little more steady, persevering, well-directed labor, our exhibitions would, or at least ought, to show us a better average of quality, with a corresponding and unwelcome diminution in quantity. "Fewer and better" would be a most welcome change.

SIZE OF THE SUN OR MOON IN A PICTURE.

For *pictorial* purposes, the sun and

moon may be regarded as of the same size. Their pictorial size is entirely a matter depending on the distance from the eye that the picture is intended to be placed. Thus, if the picture is designed to be viewed at three feet from the eye of the spectator, then the diameter of the moon should be ⅜ of an inch. If the viewing distance is one foot, then the diameter should be ⅛ inch. Similarly, a moon 1 inch in diameter should be viewed at eight feet distance. This may seem to the reader to be gross exaggeration on the side of smallness. But let him take a photograph of the next full moon, with a lens of 12-inch focus, and he will find that its diameter is as above given. Or, if using a lens of any other focal length, he will find that the diameter of the moon is, *roughly* speaking, about one-ninetieth of the focal length of the lens used. Hence the wafer-made moon in most photographs is many times too large.—*Rev. F. C. Lambert, M.A., in Photographic Art Journal.*

Chas. Vandervelde, Grand Rapids, Mich.

THIRD PRIZE.

INTENSIFICATION WITHOUT METALLIC SALTS.

Mr. J. S. Teape, at a recent meeting of the L. and P. P. A., read a paper entitled " Intensification Without Metallic Salts," and claimed that better results can be so obtained than when either mercury (the most universally used) or uranium were used. Neither method was under control, or reasonably permanent, although Mr. Haddon, at the previous meeting, had shown how the mercurial method could be made more permanent. Mr. Teape gave two alternative methods — one in which the image is chlorized, washed and redeveloped; in the other it is bromized, washed and redeveloped, the former being suitable where only a little increase of intensity is required, the latter where a greater. There is no risk of stains, and the permanency is undoubted. Elaborate experiments were detailed, and careful comparative results shown. The formula for chlorizing the image is:

Potass bichromate	5 grains
Potass chlorid	10 grains
Hydrochloric acid	4 minims
Water	1 ounce

For bromizing:

Potass bichromate	5 grains
Potass bromid	10 grains
Hydrochloric acid	4 minims
Water	1 ounce

The negative may be soaked in water, or may be put into the solutions dry. Allow to remain in the solution a little time after the image is bleached right through, then wash for, say, half an hour, then redevelop with any formula in general use. With a chlorized image adurol does not give so much increase of density as with a bromized image; with metol little difference can be detected; pyro soda, pyro ammonia, pyro metol, all give great increase of density. Exposure to light before redevelopment accelerates the operation, but does not otherwise affect the final result. Temperature also plays its part; if below 60° F. the action is slow, above 60° it is much quicker. The above redevelopers give the image a brownish color, a color that helps in giving printing density; with hydroquinone the image is black, but the visual density is greater. To intensify the delicate tones only, soak the plate in water, then slightly chlorize the surface of film, wash and redevelop. A second set of experiments went to show that excess of sulphite in the developer should be avoided, its action being to dissolve some of the silver, but more especially in the chlorized films. By a slight variation the above methods may be used for reducing intensity.

After image is chlorized, wash and redevelop a little further than the density ultimately required, rinse and immerse in hypo bath. By this means you decrease the density of the dense portions and increase that of the delicate ones, and the specimens shown by Mr. Teape amply bore out his contention. Mr. Somerville could fully corroborate Mr. Teape's statements, but preferred to bleach in cupric bromid. Mr. Haddon suggested soaking in a weak solution of sulphurous acid, or of acid metabisulphite, which would facilitate the elimination of the bichromate, and would much shorten the washing. Mr. Teape said that a solution of soda carbonate would answer the same purpose, and would be less likely to affect the film. In reply to a question as to how long the bromizing and chlorizing solutions would keep, Mr. Teape said they could be used over and over again, until their action was too slow.

WRITING UPON GLASS.

There are many formulæ for inks to be used for making announcements or title slides, writing on negatives, and labeling bottles. I have tried many, but there are none I like so much as the following, which comes, I believe, from France:

Alcohol	1 ounce
Water	1½ ounces
Shellac	60 grains
Borax	90 grains

with sufficient dye (aniline) of the desired color added to give it density. There is an art in mixing the above. First dissolve the shellac in the alcohol and the borax in the water, mix very gradually — almost drop by drop, and apply heat at once should a deposit be formed, and then add the aniline dye. The proportion of the water should be such as to make the ink of a consistency as to flow easily from the pen; some workers, for example, use only ten drams of water, for it is wonderful what a difference a few drops will make.

A.

PREPARING, SENSITIZING, KEEPING AND USING SALTED PAPER.

The term salted paper I apply to a good quality of paper which has received a coating of gelatin or arrowroot containing a soluble chloride, such as that of sodium or ammonium. This paper when required for use is sensitized with a ten per cent solution of silver nitrate and then treated in the same way as sensitive albumenized paper.

I have made a good many experiments with a view to determine which of the salted papers now on the market is the best, what is the best way of enhancing the keeping properties of the sensitized paper and at the same time of increasing the vigor of the image obtained, and which are the most suitable toning baths to employ to get the best colors. I may say at once that the best of the commercial papers which I have tried is the Crossed Swords brand manufactured at Dresden.

I myself made a number of experiments in salting papers and have established the fact that the nature of the soluble chloride has a very trifling influence upon the result, while the addition of alkaline salts of the organic acids, and especially of citrates and tartrates, which allow the most vigorous images to be obtained, has a very marked effect. In order to facilitate platinum toning, the employment of arrowroot as the vehicle is preferable to that of gelatin. There is no real advantage in preparing one's paper one's self. The economy is very slight, for Rives paper ought to be used, and that, even uncoated, is costly. The influence of the paper support itself is, if anything, greater in the case of salted papers than it is with others, because the sensitive compound is in intimate contact with it and not in a separate film or layer of gelatin, collodion or albumen. This is the reason that it is not easy to get good salted papers on a paper of inferior quality to the Rives. Besides the purity of the fiber, the quality of the sizing material used has a great influence on the result. The same sizing formula employed with two different papers, one a Rives and the other a different make, gave me results so diverse that I could hardly believe that they had received the same preparation.

Salted paper should be sensitized on a neutral solution of silver nitrate, containing not less than ten per cent of nitrate. To sensitize it, the paper should be floated face downward in the usual manner for from two to three minutes. The paper is hung up to dry, and when quite dry should be used the same day or the next, for this kind of paper rapidly alters. This change is due to the excess of silver nitrate, which in close contact with the fiber of the paper is partially reduced, giving rise very rapidly to a yellowish coloration. Besides its poor keeping qualities, salted paper prepared in the usual way has another inconvenience, giving with negatives of average density extremely flat and weak results. I have convinced myself that both these defects can be got over by the use of a bath of a four or five per cent solution of oxalic acid. The acid changes all the silver nitrate present to silver oxalate, and this is a body which acts as a chemical sensitizer. I have already pointed out that oxalic acid, and silver oxalate more especially, act as energetic sensitizers upon silver chlorid.* Silver chlorid alone does not give vigorous images, but it quickly changes under the action of the light. Silver oxalate alone is not very sensitive, although with sufficiently prolonged exposure it will give vigorous images. The mixture of silver chlorid and oxalate is not quite so sensitive as the mixture of silver chlorid and nitrate, but with a reasonable exposure it gives prints of great strength, and has this advantage, that it does not lower the contrasts of the negative, nor do prints with it lose so much in the toning operations.

Plain salted paper accordingly, if treated with a plain final bath of oxalic acid, possesses the following qualities. The speed of printing is slightly lessened, but the prints are more brilliant and keep their strength better with the various toning baths that may be used, even in the case of platinum, which, as is well known, attacks the image much more than the other baths do.

---

* 1899. II. Congrès Photographique Italien, etc.

The stability of silver oxalate and its complete insolubility have the good feature also of making the paper keep much better; the excess of oxalic acid in the paper is an important factor in this connection. Nevertheless it may be noted that the paper gives still better results if citric acid is used as the preservative and the action of the oxalic acid is limited to the conversion of the nitrate into oxalate.

To effect this, all that has to be done is to employ as the bath a solution containing two per cent of oxalic acid and four per cent of citric acid. Then in the final stage there will remain only a very little oxalic acid, while there will be a considerable excess of citric acid. No organic acid lends itself to our present purpose like oxalic. Citric acid, for example, can not by itself be used to transform the silver nitrate into citrate because of the solubility of silver citrate in the nitric acid which is liberated. The effect of a plain bath of citric acid is to remove a good deal of the free silver that was in the paper, and so to weaken the image which will be made thereon. Tartaric acid is more convenient in this respect than citric, because it can, at least partially, decompose the silver nitrate, although the reaction is not complete. The silver tartrate is, however, much less stable than the oxalate, and it has less effect in increasing the contrast of the resultant prints.

The usefulness of a final oxalic acid bath having thus been shown, let us see how it can best be applied in actual practice. The paper after sensitizing and drying is immersed entirely in a dish containing one ounce of oxalic acid and two of citric acid in fifty ounces of distilled water. After a few moments it is taken out and hung up to dry, or the drying may be helped by pressing it between filter paper. The keeping properties of paper so prepared are very high. I have kept it for a year or more without noticing more than a very slight alteration. It is, all the same, better not to keep it for more than three or four months, if for no other reason than that the paper loses in strength.

In the following directions the best method of treating such paper to secure good prints of an agreeable color is laid down. The prints should be deeply printed, as with emulsion papers.

1. COMBINED BATH FOR BROWN TONES.

After well rinsing to get rid of the acid, the prints are placed in the following toning bath:

Water	20 ounces
Hypo	3 ounces
Alum	190 grains
Ammonium sulphocyanid	95 grains
Sodium chlorid	95 grains
One per cent gold chlorid solution	1 ounce

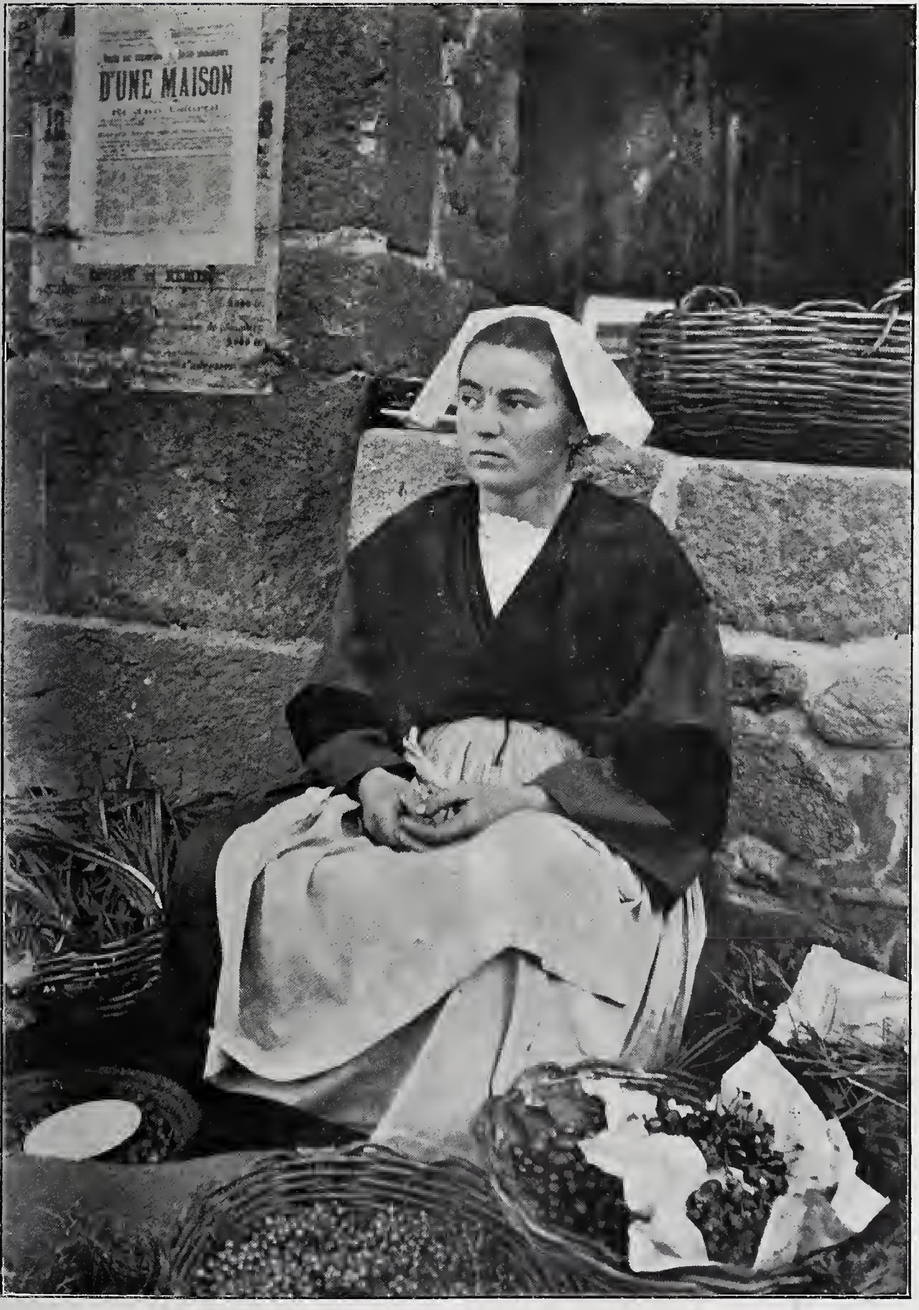
In this solution the prints assume a reddish brown color, which, for some subjects, is very suitable. If preferred, the ordinary combined bath containing a salt of lead, recommended for P. O. P., can be used.

2. PLAIN GOLD TONING.

In order to tone these salted papers with gold and keep the whites pure, a preliminary bath of a five per cent solution of common salt should be used. We can thus transform all the silver oxalate into silver chlorid, and avoid the powerful reducing action which oxalic acid and the oxalates exercise on gold chlorid, which otherwise would have the effect of precipitating gold upon the whole surface of the print. This ought to be borne in mind whenever papers containing silver oxalate are dealt with. After this salt bath the print is washed and placed in one of the gold toning baths. A plain solution of gold chlorid (one part in a thousand) containing ten parts of sodium bicarbonate and five parts of common salt will be found very good. The tones which are thus obtained are violet-black. A good color is made more certain if the print is placed for fixing in one of the combined baths containing lead referred to in the preceding paragraph.

3. PLATINUM TONING BATHS.

A platinum bath is very suitable for



Negative by Walter Zimmerman, Philadelphia.

IN AURAY MARKET.

salted paper of this description. This follows, doubtless, from the fact that the silver oxalate to start with, under the action of light, gives rise to black reduction products. The bath I recommend is as follows:

Potassium chloroplatinite.	1 grain
Oxalic acid	100 grains
Pure hydrochloric acid...	1 dram
Distilled water	20 ounces

Baths containing phosphoric acid are not to be recommended; they give yellow stains and a yellowish tinge generally. Deeply printed pictures from vigorous negatives (thin negatives do not give good results) are rinsed and then immersed in the platinum toning bath, which in winter time should have the chill taken off. When the desired change of tint has taken place, the prints may be taken out quickly, rinsed for a few moments, and fixed. Fixation is preferably carried out in the combined toning and fixing bath already mentioned.

4. COMBINED GOLD AND PLATINUM TONING.

With double toning the best colors are to be got. The prints are partially toned with gold in the bath given under heading No. 2 (above), and are then transferred to the platinum toning solution above described, where they may be left if desired for a considerable time, as any very great weakening of the image is not to be feared in this case. They are finally fixed in a plain hypo solution, or, if preferred, in the combined bath.

5. COLORED IMAGES WITH POTASSIUM FERROCYANID.

Salted paper as described above can be used for direct ferrocyanid toning. It has been said that this can be done with matt gelatin or collodion P. O. P., but I have never been able to get a good result with it. On the other hand, this salted paper, if it does not tone as well as gelatino-bromid, nevertheless gives satisfactory results, especially with uranium. The following is the formula I prefer:

Uranium acetate	48 grains
Water	20 ounces
Glacial acetic acid	100 minims
Potassium ferricyanid ...	20 grains

Instead of the uranium acetate, uranium nitrate can be used if preferred, adding to the formula ninety-six grains of crystallized sodium acetate. The print should be very deeply printed under a strong negative, washed, fixed in hypo, and then well washed. It is then placed in the above bath until the red color desired is obtained. The blue color, with iron, is not got so successfully if the blue toning is direct; it is better to tone with uranium and then to modify the color. To do this the red toned print is placed in a one-tenth per cent solution of ferric chlorid, acidified with nitric acid. However, it is not easy even with this method to obtain a completely satisfactory result. Toning with copper ferrocyanid does not give practical results with salted papers.— *Photography.*

PROF. RODOLFO NAMIAS.

MAKING OF SOLUTIONS.

There are numerous chemicals used in the various photographic processes, which, on account of their bulk, are difficult to pass through the narrow neck of a bottle. I refer to such substances as sodium sulphite, potassium carbonate, pyrogallic acid and others, the difficulty in the one case being the size of the crystals; in the other the sticky, feathery nature of the powder. The plan to adopt in the first is to crush the crystals in a mortar, and in both cases to empty the scale pan, after weighing, into a funnel inserted in the bottle neck. All that is needed then is to pour a little water into the funnel, and the contents readily wash down into the bottle. If a salt is difficult to dissolve, for instance, hypo, sulphite of soda, oxalate of potash, etc., and apt, when dissolved, to need filtering, the two processes may be effected at the same time by wrapping the salts in muslin, and having filled the bottle with water, insert the muslin bag, and suspend it with the cork. As the salt dissolves, it will filter through the muslin, and sink to the bottom of the bottle, leaving clear water above to hasten solution.— JEFF.

PREPARING FOR WORK.

Now that spring is come, with the advantages of lengthening days and more actinic light, it is likely that those who have disregarded my plea for the photographic possibilities of winter will begin to unpack their cameras and get the rest of their apparatus in order for the coming season. Cameras that have only been laid aside for the winter without any trouble being taken to see that they are properly packed will need a thorough overhauling, and should be dusted carefully both inside and out. The bellows must be examined for pinholes, and the shutter must be tested for speed and regular action, as in many cases shutters work very stiffly after being unused for a considerable time, and the rubber pneumatic releases are notoriously perishable. That part of the photographer's outfit on which most care should be expended is, of course, the lens. At the beginning of the season the actual lens or lenses should be removed from the mount and very carefully cleaned, it being borne in mind that the surface of some kinds of glass is extremely delicate, and that a very little careless handling may permanently ruin a high-class instrument. A frequent and unsuspected cause of fog with plates or films is light reflected from the inside of the camera, and this can only be avoided by painting the whole of the inside absolutely dead black. A suitable formula is benzole, 1,000 parts; india rubber (in shreds), 6 parts; asphaltum, 300 parts; with a sufficient quantity of lampblack well mixed in. For removing dust from the inner corners of the bellows and other awkward crevices one of the vulcanite stirring rods, now so commonly used in place of glass, is very useful. If this is rubbed for a moment on the coat sleeve, and is then held close to the spot from which the dust is to be removed, the whole of the dust will be attracted to it, and crevices that could be got at in no other way can often be cleaned out in this manner. Should the bellows look rather shabby, they may be brightened up by a coat of renovator, which can conveniently be purchased ready made. When the camera and other appliances have been put in thorough working order, the photographer will be ready to sally forth and start the season's work.

A USEFUL HINT TO GUM WORKERS.

A correspondent signing himself "Assam," writes: To make a solution of gum by the ordinary method is, to say the least of it, rather a tedious operation. The mixture of gum and water requires frequent attention in the way of stirring, and even then, several hours elapse before solution is effected.

The chemist who requires his solution clean and fresh, proceeds in the following manner, which is practically automatic, and depends on the natural law that the denser liquid falls to the bottom.

He takes the gum in two or three folds of fine muslin, and of this makes a bag.

This he suspends in a cylindrical measure containing water, so that the gum shall be just below the surface of the liquid, the muslin bag being tied to a glass rod or pencil laid across the mouth of the measure. Solution proceeds rapidly.

The foregoing method finds additional favor in the eyes of the chemist, as no heat is required, heat, in his opinion, causing a tendency to rancidity.

New Yorkers are showing a great interest in the first American photographic salon, to be held in that city next December. The jury consists of twenty-two distinguished painters, and the committee in charge represents every corner of America. The personnel of the jury is strongest proof of photography's recognized standing with the fine arts and the honor of being accepted by it is a worthy incentive to pictorial workers. There can be no appeal from recognition by such a tribunal. We would advise that immediate application be made to S. C. Bullenkamp, 102 West One Hundred and First street, New York, for copy of the prospectus.

EDITORIAL TABLE

From the Century Camera Company, Rochester, New York, we have received copy of their catalogue for 1904. On opening the book the first thing that strikes one's eye is the new revolving back, an entirely new feature in hand cameras. Here is something that is simplicity itself and very practical, because one readily experiments with the view under consideration so as to decide whether an upright or horizontal picture will give the best result.

A beginner came into our office to ask advice. He had bought an outfit but felt certain he had been swindled because the image on the ground glass was upside down. Had he invested in a camera with the new "Century" Mirror Panel, he would have had no excuse for showing his ignorance, because with this new attachment it is possible by its aid to see the image right way up.

The new "Century" instruments have no swing-back, but instead are provided with a swing-bed which attains the same results in a simpler way.

There are other new features in the focusing screen, the finders and other parts too numerous for mention here, so those interested should send for a copy of the catalogue itself. It is utterly impossible to describe all the new cameras that are listed and so must refer our readers to the book itself.

From the Pacific slope there came in one day a pictorial postal that caught our eye because the image was in a beautiful sepia tone, so we at once wrote the sender for particulars. We find it was sensitized by "Etchine," a new single-solution sensitizer put on the market by Burke & James, 118 West Jackson boulevard, Chicago. It can be used on postal cards, drawing paper or wood. More recent specimens received are on cloth toned pure black and a postal toned warm black. This is certainly a good thing and worth investigating.

Hirsch & Kaiser, 7 Kearney street, San Francisco, California, have issued a very complete catalogue which they will send free to all interested residing west of Denver.

The Kilborn Photo Paper Company, Cedar Rapids, Iowa, has introduced the Kilborn Automatic Electric Photo Printer, specially designed for use with all developing papers.

"Home Portraiture," by F. M. Steadman, is the title of a very practical booklet just issued by the Eastman Kodak Company. Visitors at the Indianapolis convention last year were much delighted by the many beautiful portraits Mr. Steadman there exhibited, all specimens of portraiture made in ordinary dwelling-houses, and now in this booklet he tells exactly how to do it. Eight charming portraits illustrate the book, each accompanied by a diagram showing how it was produced.

"Optik fur Photographen," by Dr. F. Stolze, is the title of Volume 49 of the Encyclopedia of Photography, published by Wilhelm Knepp, Halle a. S., Germany. The price is $1.

From the Infallible Exposure Meter Company, 237 South Fourth street, Brooklyn, New York, we have received a sample of the Shutter Tester manufactured by them. Its use is as easy as falling off a log; its revelations about the speed of shutters will be surprising to the novice. It will pay every camera owner to invest $1.50 in buying one of these instruments, for it will soon save its cost in plates.

Taylor, Taylor & Hobson have just issued a new picture booklet containing a fine selection of varied subjects, showing what can be done when using a Cooke lens.

THE PHOTO-BEACON.
AN ILLUSTRATED PHOTOGRAPHIC JOURNAL
Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All remittances should be sent by postoffice money order, draft or registered letter to the order of The Photo-Beacon Company.

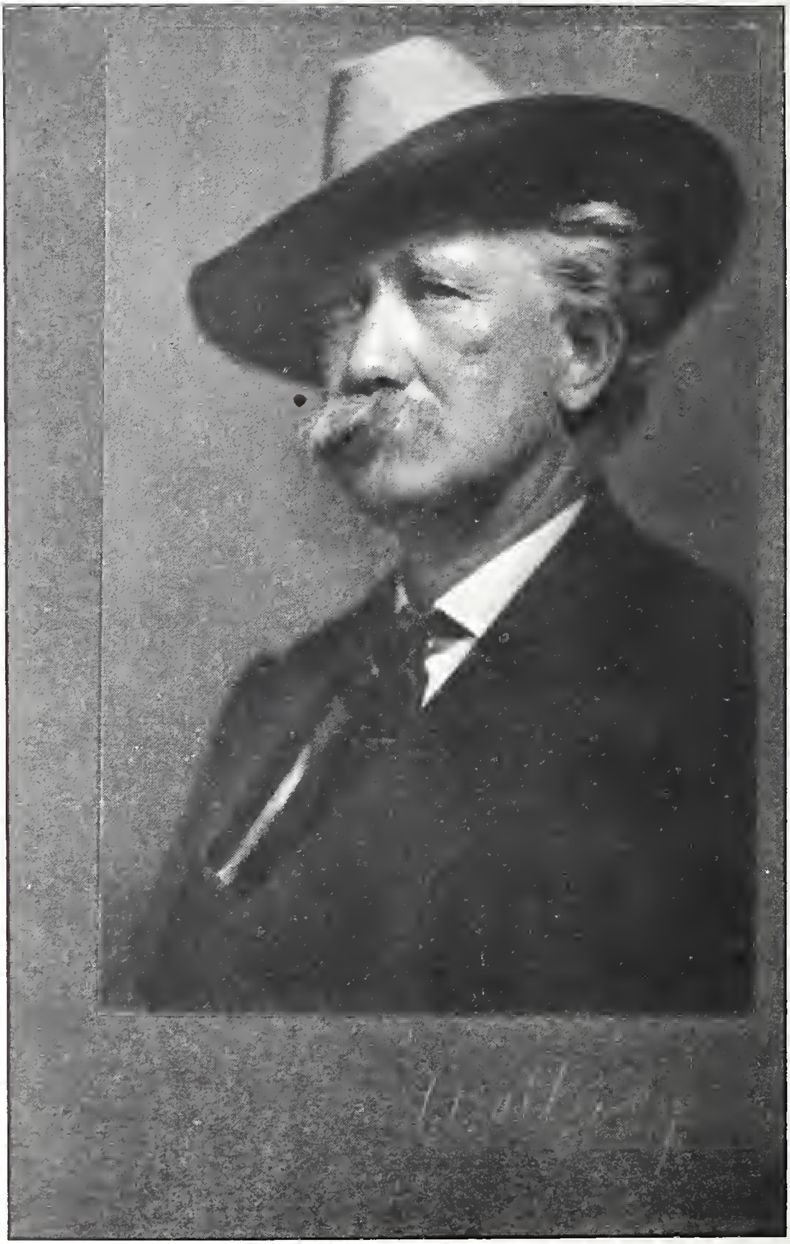
Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

To insure insertion in any particular number, copy for advertisements must be received not later than the 20th of the month preceding.

All communications relating to The Photo-Beacon should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621 Broadway, New York.



FIRST PRIZE.

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 908 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XVI. JULY, 1904. No. 7.

PHOTOGRAPHY AS A PROFESSION.

SECOND ARTICLE.

In outlining a plan for organizing photographers for the protection of their business interests and to insure a decent living for them by eliminating as far as possible overcompetition as is done in all other professions and trades, I was rather handicapped by this proposition, one that I felt the more I thought of it to be fundamental — that any scheme for the betterment of photographers must protect the very weakest individual who is trying to honestly earn his living by photography. But on the other hand there was another point almost as urgent — namely, the relationship of the public who must be given something in exchange for the present questionable blessings of free competition among those catering to their trade. All other professions and trades endeavor to balance matters by guaranteeing a better quality of service than previously, and it must be admitted that on the whole this is true, so photographers can do the same.

Here, then, are conditions to be fulfilled. We must protect as far as possible all those now engaged in photography, and we must raise the standard of the work turned out by the average gallery.

It is easy enough to devise a plan to kill off the weak members of the fraternity, in fact I could point out half a dozen ways in less than an hour, but outside the morality of the proposition it would be poor business policy, as an equal number would bob up out of the woods in a very little while. No, the remedy lies in limiting entrance into the ranks by insisting upon higher educational qualifications and an expensive training from would-be photographers, just as is demanded from other occupations.

In their present disorganized condition, photographers are in no fit shape to go before State legislatures and demand the enactment of laws creating their craft into a profession by the enforcement of a college career on would-be photographers, and since it is a mixture of a one-man business and factory system, the help are unable to organize it into a trade. It therefore looks to me that the feasible plan at the present moment is to combine the suitable features of both profession and trade union, leaving higher ambitions to the future when photographers are more perfectly organized.

Again, knowing the shortsightedness of the average man who thinks more of present needs than possibilities of a few years hence, it is essential that the proposed plan shall give some tangible, immediate benefit, while lack of connection with it shall result in present loss. This statement may appear to many to be an outrageous libel on the human race, but the fact is beyond dispute and all human institutions are perennial proof, for government, it is now admitted, was originally instituted and is to-day fundamentally constituted for the one great purpose of protecting that portion of wealth which is set aside for future production for the needs of the race. In other words, the unthinking, improvident many have to be coerced for their own good by the thinking few.

Immediate advantage therefore to the average man who participates in the proposed organization is an essential feature of the scheme, and this in turn must be the principal factor in the structure once it is complete. We are now therefore in a position to sum up the broad principles that must be kept in mind in devising a plan for the present and future betterment of professional photographers. In the first place it must be restrictive, that is, make entry into the profession difficult by demanding higher education and technical qualifications from would-be photographers. It must be protective, not only of the very best workers in the ranks, but also of the poorest, because the interests of those who benefit by competition are best served when there is in the market a goodly number of indifferent workmen looking for positions. The buyer of labor, whether employer or general public, offers such workmen lower prices because of their unskilfulness, but when dealing with good workers they insist they can buy the labor of the poor workman for so much less, but conveniently ignore the indifferent quality of the service. The strength of a chain is measured by the weakest link, hence there is much wisdom in the policy of the trade unions in protecting the weak workmen, and so necessity has evolved the natural law that commands every individual to defend the members of the group to which he belongs against all comers.

Weighing carefully all these premises I was forced to the conclusion that a plan of giving certificates was the one to be adopted. As regards the employers the idea first of all is to grant from an authoritative source a diploma of merit such as is given to other professional men. The idea is this, such a document hung in a conspicuous place, following the example of doctors, dentists, lawyers, etc., has a psychological effect on the community in giving confidence in the ability of the holder. Of course it is no guarantee that the photographer is the best man in town, any more than the doctor's diploma proves him to be a good physician, but it is an assurance that he ought to be, for at one time he knew enough to be efficient, and it is in this light it is accepted by the public. Confidence between photographer and customer is a great thing and a certificate of competency is worth much to any man. At first it will be necessary to pitch the standard covered by these certificates rather low, but year by year it can be added to so that even the weakest man will be forced to make advance. All improvement is against gravity, it is propulsion and compulsion that lifts to a higher plane, so the examining board can guide the poorer workman on his upward course by the application of a little judicious pressure. But it must never be forgotten the aim of the scheme is not to kill but to help.

In the same way certificates shall be granted to employes, based on their actual ability as reported on by previous employers.

I recommend that all certificates be of three grades at first, namely, ordinary, honor and extra honor. The ordinary grade should certify the possession of technical skill only, the honor certificates will be granted to those who show knowledge of the theory of their craft, as well as possession of skill. As soon as conditions permit of it the ordinary grade should be made to include the honor grade, and then the present extra honor certificate would become the honor certificate of the future.

After weighing all sides of the question I am decidedly of opinion that certificates should be granted for one year only, so as to prevent unprincipled individuals from securing the certificate and then for monetary personal gain carrying out some scheme that would be detrimental to the profession as a whole. I would be very, very chary of granting certificates for life to any man.

As soon as it was found possible I would link the employers' and employes' certificates together, by making it a condition that certificated employers hire only certificated help, and the latter work only for those who are similarly qualified. This is the crux of the whole problem, for the instant such a condition of affairs is feasible, the fraternity get a firm grip upon would-be entrants into the profession. In the case of young people they can demand suitable educational qualifications, while they can head off adults who want to start in business by making it exceedingly difficult for them to secure competent help.

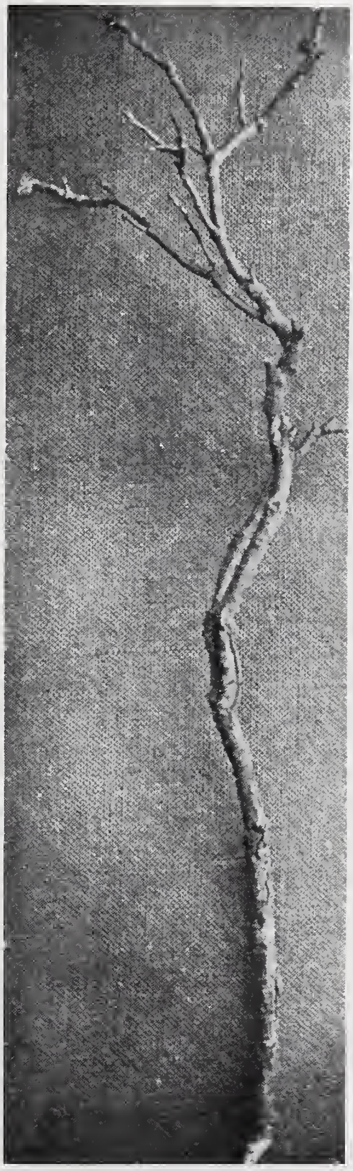
A very essential feature of the scheme I consider to be the establishment of an employment bureau with prompt service for the holders of certificates, and no others, this being one of the immediate benefits I have referred to.

In drafting this plan it will be noticed I have tried to combine such features of both professional organizations and trades-unionism as seemed applicable to photography as it is at present constituted. It is not set before the fraternity as a perfect plan by any means, but rather as a possibly practical proposition that may work, or at least lead to the evolution of a better one. The fact that it was seized hold of with enthusiasm by the Illinois photographers shows it possesses some merit, and my daily correspondence assures me that photographers feel the need of some organization based largely on economic principles. Conventions have in the past done much for the education of the photographer to the direct benefit of the public in providing them with better pictures, but the financial status is as bad as it ever was, if not worse.

In the next article I will outline the methods of granting certificates and the qualifications I consider necessary.

F. Dundas Todd.

Postscript.— The remaining article on this subject will appear in August issue, but I would draw attention to the fact that, as stated on page 223, an association has been organized to carry out my ideas. The officers in the new association are all men well known to photographers and almost all are now or were recently holding office in either the National or State Associations. This should make plain one fact, that the new association is in no wise antagonistic to existing bodies. After mature consideration it was decided that so radical a plan should be worked separately until brought to a successful point and then amalgamated with the present organizations, whenever the members of them felt like taking up the work.



W. H. Porterfield, Buffalo, N. Y.

FIRST PRIZE.

PICTORIAL COMPETITION No. 73.

Year by year I put this particular competition on the list because to one who is earnest in desiring to know more about composition, a branch of a tree without or with leaves forms an ideal subject, because it tends to concentrate the worker's thoughts entirely on the great problem of composition or arrangement. Most of the prints that are sent in show much education is needed in this line, for it may safely be said that outside of the prize-winners hardly any one sees lines and spaces. Most seem to think that any old branch photographed in any old way is good enough, but I am certain that if these same individuals would take the subject seriously they would find it a much more difficult task to make a good branch picture than to secure a good landscape.

Successful landscape photographers are fairly numerous; there is practically only one flower and branch photographer in the world, namely, Mrs. Carine Cadby, of England. Until recently she has never told her methods of working, but I am very glad to have the opportunity in this issue of reprinting an article from her pen accompanied by illustrations showing her method of working and outlining the ideas that govern her. The reproductions are not as good as I would like because they have been made from half-tone pictures, but even as they are they show Mrs. Cadley's wonderful eye for line and suggest her feeling for tone. I think my readers need but have their attention drawn to the article to tempt them to follow in her footsteps, especially keeping in mind Competition No. 76, which is due in August.

The judges made the following awards:

First Prize.— W. H. Porterfield, 100 Lakeview avenue, Buffalo, New York.

Second Prize.— James Thomson, 2 Mascoma street, Roxbury, Massachusetts.

Third Prize.— Charles E. Barr, Albon, Michigan.

CRITICISM OF WINNING PICTURES.

Little need be said about these, because, as I have already indicated, the great thing in this competition is spacing, and the interested reader can readily figure the spaces for himself.

FUTURE COMPETITIONS.

Competition No. 75—Genre pictures, or pictures that tell a story. Closes July 31.

Competition No. 76 — Branch of a tree with leaves, with special consideration of decorative effect. Closes August 31.

Competition No. 77 —" At Home " portraiture, that is, portraits not made in a studio. Closes September 30.

Competition No. 78 — Snap-shot pictures. Closes October 31.

Competition No. 79 — Landscapes. Closes November 30.

Competition No. 80 — Flower pictures. Closes December 31.

Competition No. 81 — Sharp-focus competition, either landscape or waterscape subjects. Closes December 31.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else*. The outside of the package, in addition to our address, may bear that of sender. Accompanying a letter or postcard should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.

2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.

3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.

Second — Books to the value of $2.50.

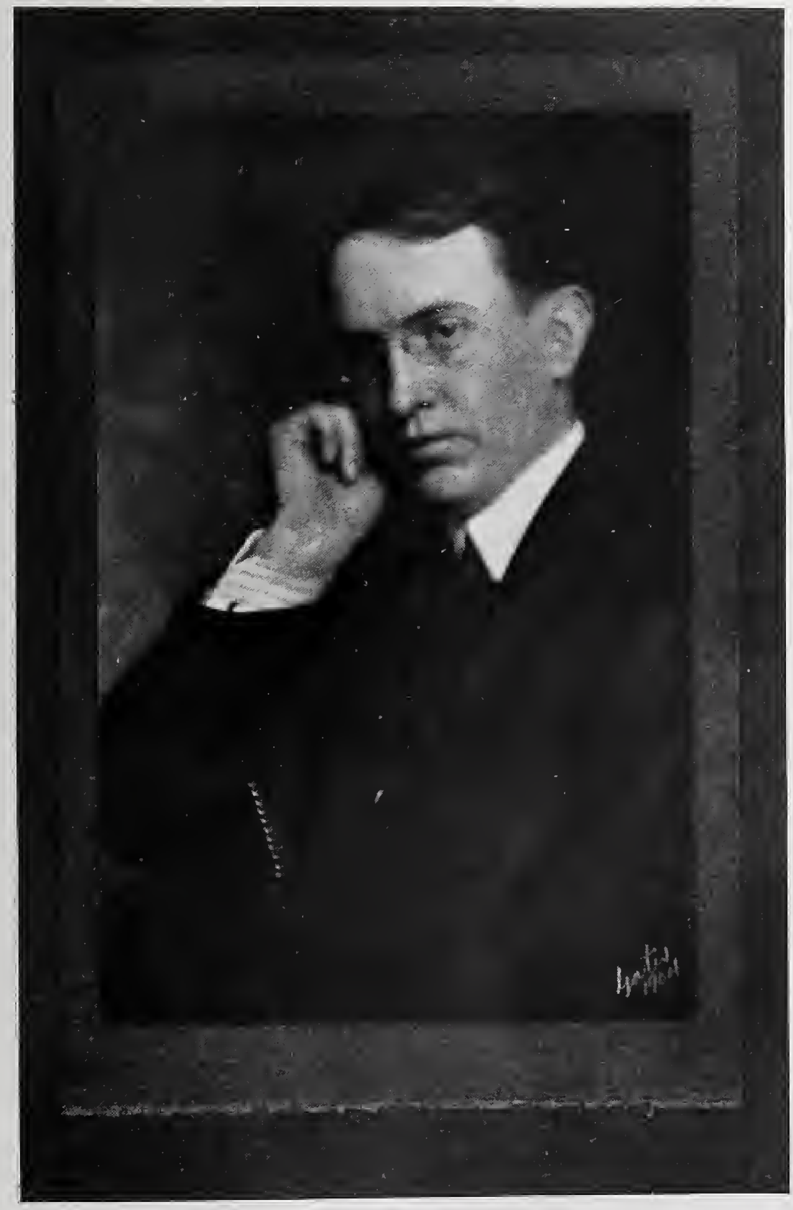
Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

DON'T forget the sharp-focus competition which closes on December 31. Everybody invited to take part.

PROFESSIONAL PORTRAIT COMPETITION No. 5.

Yesterday I had a long chat in my office with one of the greatest photographers in this country, one whose name is known to every photographer, and I took the opportunity to go very thoroughly with him over the ground laid out in my proposed certificate scheme. He was quick enough to catch on to the one point I had considered the most important in the whole plan, where I lay down the conditions for apprenticeship, and insist among other things of the



SECOND PRIZE.

proof of natural artistic taste by the candidate making a very elementary drawing. In his opinion the short paragraph contained more matter for the advancement of professional photography and photographers than the rest of the article, and frankly speaking I felt so when I wrote it. Then he went on to tell me that for five years he had spent at least four evenings every week in drawing school, and even now with a world-wide reputation he devoted two evenings every week to drawing from the living subject. The point of this story lies right here, if Pirie MacDonald — for he was my visitor—feels the need of hard study in art matters even with a long successful career behind him, the ordinary man with ambitions must simply buckle down and work just as hard if he desires to go as far.

Now it is not so much the speed at which a man travels that counts as the direction in which he is headed. If he has no objective, he will simply wander in a circle, but if he has some definite aim, he is bound to make progress toward it. Some of my readers seem to think I can teach them all about art in five minutes. I can not, for I know I could not learn all about art if I studied the subject daily for a hundred years, but I am certain I could tell in ten minutes all that many photographers care to know. For instance, one man writes in to say that at forty he feels he has done all the learning one should reasonably be expected to do, and now he wants to make a little money. Would I therefore tell him where he could open up a tintype gallery where thousands of people resort daily all during the summer, and where he would have the field all to himself.

This man is wishing instead of doing. He thinks that some day he may secure a fine pudding all to himself by good luck, forgetting that life is one continual struggle for existence. MacDonald realizes this fact and is always struggling for a higher plane, and his is the only road to success.

The following letter is from a photographer in one of the Southeastern States and shows how his mind is working. He took up photography but a few years ago, and when I saw his work for the first time in October it was very ordinary. He is the winner of the third prize in this month's competition as a result of steady effort, for he has taken part in them all, and apparently means to keep pegging away not so much to win prizes as to have a spur to induce him to better attempts. This is the right mental attitude, and I want to see every professional do likewise.

Editor:

In making a study of any particular subject, no matter what it may be, it has always been a great help to me to get as concise a definition as possible of the same by looking into every dictionary, encyclopedia, etc., also to look up the etymology of the word. I have been hunting for quite a long time for a definition of the word "Art," and probably you and some of your readers can help me and at the same time be something of general interest to your subscribers. There are two definitions that I have gathered up that are better than any of the rest, namely, Art is the expression of an ideal. This is quite neat and to the point, and one who is studying anything artistic must first have an ideal (which, by the way, takes quite a long time to acquire in some and is *never* acquired in others), and a very much longer time is required to express that ideal. This may be an answer to the question: Is photography art? It is and it is not, according to the foregoing definition of the word. How few photographers have an ideal beyond the dollar-mark may be seen in the outlandish poses of some of their patients, who look more like some one waylaid or held up by highwaymen as they sit full face in the sunlight, their faces the shape of a target or cheese-box. These photographers probably do not know there is such a thing as an ideal.

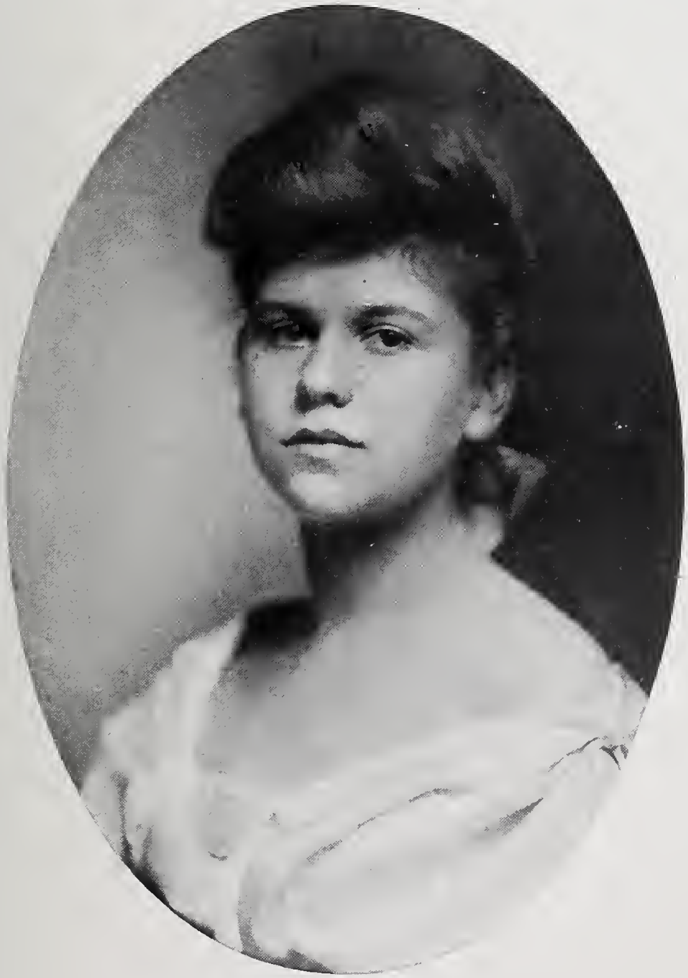
The second definition is: Art is the idealization of nature. This is quite to the point when we get to think of it. To make beauty more beautiful — to make ugliness more horrible — in some ways we might almost call art exaggeration. Art is not a copy from nature, but an idealization of it.

I, for one, would be very much pleased to see a general discussion of this subject, and especially a good definition of this word art. Yours cordially, A Would-be.

Almost every day a photographer tells me he is thinking of taking part in the contests. Thinking is a cheap way of making oneself feel virtuous but does not amount to much unless it becomes action. Long ago good intentions were described as so much pavement for the road to the infernal regions. It is doing that counts, and doing now is worth more than doing a year hence.

Both the first and second prize pictures are by Chicago photographers, both are printed in platinum-toned sepia, and both indicate that there must be a demand for this kind of work in the metropolis of the West, which demand will probably reach the smaller cities at no distant date.

The first-prize picture is a piece of strong work that carries well when viewed from quite a distance. It is blocked out in a few simple masses consisting of body, head, hat and background. These in turn are broken up into minor spaces, the body by means of the necktie and shirt front and collar, the face by the various features, while the hat is divided into brim and top. One can study this composition quite a while with profit, and see how much variety there is in the shape and size of the various spaces whether large or small. The tying — that is the connecting of the figure with the margins of the print — occurs at four different places, twice by the edges of the hat, once by the shoulder on the right, and once by the body on the left — again is variety evident. The scale of lighting on the figure proper is extreme in its



THIRD PRIZE.

character. Pure whites are found on the face and linen, while deep blacks occur on coat and hat. Now these extremes must be linked together to have a pleasing effect, so my readers will note with interest how the connection is made — first by the play of shadow on the cheek and neck gradually blending the extremes together. Then the background is handled with skill for the same purpose, it being as a whole lighter in tone than the coat and hat brim and darker than the lightest part of the face. It thus forms a middle tone, so to speak; between the extremes. But the photographer's skill did not stop here, because he darkens that part of the background that connects the two blacks of coat and hat brim behind the head and lightens the part in front of the face until the whole blends pleasingly. Now all this that I have said is merely a mechanical view of art, but it is the view that needs to be pointed out to the photographer at the present time, for line and values are emphatically the weak point of the average man. This is the direction in which I want to see the photographer headed.

The second-prize picture is by our old friend who figured so frequently as first-prize winner, but in my estimation he is this month only second, though mighty close at that. About all I have said of the first-prize picture is applicable here, and my readers should work out the masses, lights, shades and connecting half-tones for themselves. Much of the success in both these pictures is got by local printing, a covering of cotton wool being applied to the negative to protect the parts that are dark enough.

The third-prize picture interests me exceedingly, because the photographer who made it took my attention early, and I have naturally watched his swift upward progress. I like also the broad sketchy way in which the whole thing is planned. There is practically not a pure white in the print, so he seemingly elected to work with a short scale of tones, in which he was wise, for the shorter the scale the easier is the handling. Our friends, the Japanese, frequently limit themselves to only three shades, and there are not many more in this portrait. The lighting is almost in line with the lens, hence the soft effect, and so we get practically only two masses, that of hair and figure. But there is subtle gradation through face, breast and drapery. Notice how black against black hair and light against light face and shoulder make a good combination. The lines are specially good. Any one can see the beautiful curve of neck and shoulder, the curves of the drapery, but few will more readily notice the one that runs through the figure, taking its origin in the dark of the hair above the left eye, continuing down the nose, just touching the lower lip, then taking a turn to the left where it is suggested by the light spot on the breastbone and then fades away into the drapery. Now here is thinking, and I consider the man who can attain this much in a few months has a future before him.

HONORABLE MENTION.

Berkemann. — A very attractive child portrait, decidedly out of the usual run, but it has two features I do not like. One is that the figure fills up the entire space, whereas in a child portrait the figure should be fairly small so as to suggest the size of the sitter. The lighting has been concentrated on the front of the face apparently by placing a dark screen between light and the side of the head, with the result of a rather unfortunate effect of spottiness.

Z (Iowa).— A fine conception of tone, but pitched in a very low key — a denser negative would have been better. Do not forget that catch lights in the eye give life to the subject.

Newton.— A man playing a violin is a hard subject, but you have got rather good lines. Your background is far too dark, try one intermediate in tone between clothes and face, rather than darker than both.

Berry.— A very presentable portrait from a strictly commercial standpoint. The tones are good for a short scale, though I would prefer just a little touch of black on the shadow side of face and neck.

Ward.— You just missed a fine thing in the lady picture by using the wrong background. From black hair to white drapery is a long jump and it is necessary to bridge the gap between. Here is where the judicious use of a background comes in, for by using one of middle tone the transition is made agreeable. Your background is practically of the same tone as the drapery. The lines are very good.

Leonard.— A magnificent subject, but your light background spoils everything. Just put your best thinking into this one thing.

Lovelace.— Another case of poor choice in a background — this time far too dark, hence the startled look on the sitter's face. View of face is too much front, for both eyes showing makes the subject suggest a horned owl.

Jukes.— Everything too black.

ALSO RAN.

Sherbin.— Too broad a light gives a washed-out effect.

Jno.—A fine subject, but photographically nothing doing. You need to study.

No Name.— Young man in hat and overcoat. Wrong view of face, the narrow side being next the lens. The lighting of the face is too flat.

RULES.

1. Only one print to be submitted in any one month, and this must be from a negative made in the ordinary course of business, within sixty days of the date it was mailed.
2. The pictures will be judged on the first day of each month, and all prints received prior to that date will be included.
3. Requests for private criticism, accompanied by a fee of $1, may be sent along with the print and will be answered after the judging is over.
4. Mark outside of package with the words "Portrait Competition."
5. Prints are not returnable.

Don't forget the sharp-focus competition which closes on December 31. Everybody invited to take part.

James Thomson. Roxbury, Mass.

SECOND PRIZE.

KALLITYPE SIMPLIFIED.

SEPIA TONES BY WATER AND HYPO DEVELOPMENT.

Kallitype has a familiar sound to the readers of this publication, and doubtless many of them are making the beautiful prints possible with the process. "But there are others"— many more in fact — who find in it difficulties which they deem more than they care to master, and not without reason, for it takes time and more than usual carefulness to produce good results with Kallitype.

For the past six months I have been experimenting with a number of formulæ whereby prints could be developed by *plain water* instead of that in which certain chemicals are incorporated. I have succeeded in my attempt, having now three or four methods of producing prints, which while all good, differ somewhat in quality and color. The best I propose at this time to place before the readers of this magazine, with the hope that they will give them a trial. I particularly ask those who have worked Kallitypes to try these formulæ and judge for themselves as to the quality. Moreover, while the paper is primarily intended for water development, other effects may be had by using chemicals — a short exposure, for instance — and development by silver nitrate made acid with citric produces good results, varying according to strength of silver solution. A print from a negative with more than enough contrast may be improved by immersion in a solution of Rochelle salts ten grains to the ounce of water. I simply hint at these possibilities, leaving it to others to carry along, while I give my attention to attempts in other lines which in time I trust will inure to the benefit of our readers. I have several formulæ for jet black Kallitype that can not be distinguished from platinum and as easy to produce as a blue-print. Think what that means to those who have been paying platinotype prices, prices not too high, when one considers the cost of the metal employed, but too much for some purses.

I presume many of our readers are familiar with Eastman's sepia paper, *that*, I believe, is a Kallitype preparation and those I purpose placing before them are similar in manipulation and color, although the latter is dependent on strength of sensitizer employed.

PAPER.

Any good surface paper of close texture will answer, such as is used for blue-prints will do nicely. If the paper is *porous* the iron salts are difficult to remove, even prolonged washing leaving a yellow tinge after drying. Of course for prints to keep for any length of time nothing less than good linen stock should be employed. Sizing is optional; but where "velvety" effects are desired or a necessity, the size may be arrowroot, gelatin or plain starch.

SALTING SOLUTION NO 1.

Citrate of iron and ammonia	20 grains
Ferric oxalate	12 grains
Oxalate of potass.	12 grains
Chlorid of copper	6 grains
Oxalic acid	4 grains
Gum arabic	10 grains
Distilled water	1 ounce

The paper should be coated with this and when dried treated to an application of the sensitizer, which is as follows:

SENSITIZER NO. 1.

Silver nitrate	50 grains
Oxalic acid	2 grains
Citric acid	20 grains
Distilled water	1 ounce

This should be applied evenly and allowed to become surface dry, when it may be completed by gentle artificial heat. Extreme heat will turn the ferric salt into ferrous.

PRINTING.

Printing is extremely rapid, two or three minutes in the sun usually being sufficient. The image appears of a brilliant chestnut brown on a ground of yellow, and the printing should be stopped before the half-tones appear, only the shadows showing up strong. From the printing frame the picture is immersed in clear water, where it will immediately develop fully. Four changes of water or about three minutes under the tap will be generally sufficient time in which to remove every trace of the unaffected salts. If this is not done, if the salts are not entirely eliminated, a muddiness on the back of the print will be conclusive evidence of the fact. Of course this muddy deposit impairs the quality of the high lights. When this occurs the remedy is to wash longer before fixing, as washing after the print has been in the hypo will not answer.

After washing, the print is treated to a fixing-bath consisting of fifty grains of hyposulphite of soda to thirty-two ounces of water. The print will gradually darken in this solution, and when it has attained its most brilliant condition, should be removed and washed in running water for a half-hour or more. If left too long in the hypo, the image becomes hazy, yet for some subjects this quality is not a detriment. Still the most brilliant period, which is the result of one or two minutes' immersion, will be found most desirable. This point should not be overlooked, as the success of the process seems to depend in a large measure on the time devoted to the fixing. Shortness of time can do no harm, while overtime may spoil the print.

When the print is dry, if from a negative of good contrasts the deeper portions will be of a dark brown, as dark, in fact, as an etching. The strength of solutions here given is calculated for a paper either rough surface, or void of enamel. If more contrast is desired, it is easily had by adding more of the iron citrate a grain at a time. This will be found necessary perhaps with a smooth, hard surface paper or for printing from flat, overtimed negatives. No negative is too thin to use with this process, simply increasing strength of salting solution will do the business. Thus may all tastes be gratified and wants supplied. Those who want pictures on cloth will find in this process a means of easy printing and fixing not surpassed by any other at a much higher cost. The goods should be treated to a coat of size before sensitizing and brilliant sepia pictures will result, which are susceptible of toning by the numerous metals — gold, platinum, etc.

Architects should also find this system of reproduction of value, not so much for the duplicating of ground plans, for which purpose blue-print paper is almost entirely used, but in the rendering of elevations, giving as it does white lines on a brown ground. For postal cards, note paper, menus and similar purposes it is "just the thing." Some of the preparations sold for this purpose are useless, as all gradation is lost on account of the extremes of contrast. Although this process is particularly adapted for broad effects, yet there is little loss of half-tone or detail in the high lights when suited to the negatives, thin or dense as the case may be, or occasion demand. With the normal solution all the detail in the negatives should appear in the print, and when this is not so, it is apparent the solutions require dilution, which should always be with distilled or boiled water.

Charles E. Barr, Albion, Mich.

THIRD PRIZE.

SALTING SOLUTION NO 2.

Ferric oxalate	20 grains
Citrate of iron and ammonia	6 grains
Chlorid of copper........	4 grains
Oxalate of potass.........	20 grains
Gum arabic	10 grains
Distilled water	1 ounce

SENSITIZER NO 2.

Silver nitrate	40 grains
Citric acid	10 grains
Oxalic acid	10 grains
Distilled water	1 ounce

Use as in the previously described formula, the manipulation necessary being identical, with the single exception of length of time in hypo, in this case the necessity of short immersion being eliminated. In ordinary cases the print may remain in the fixing-bath five minutes or longer without detriment, perhaps in cases of deep printing with profit. I have not experimented along these lines enough to determine as regards this phase of the matter. I know, however, that it will stand longer immersion than Formula No. 1.

Should rusty shadows or bronzing occur, pay no regard to them, as in the fixing-bath they will quickly disappear. The color of the image in this case is a lighter brown and for some subjects more pleasing. Do not expect velvety brilliant prints on inferior paper, or when careful sizing is omitted. The editor of the *Photo Miniature* has remarked the lack of brilliancy in many of the Kallitype prints, and attributes this fault to imperfectly sized papers. The soft effect in velvet comes from the depth of the pile, and size supplies this quality to photographic paper, providing the paper is not overhard in surface and is fine in texture.

SALTING SOLUTION NO. 3.

Citrate of iron and ammonia	50 grains
Ferric oxalate	10 grains
Chlorid of copper	6 grains
Oxalate of potass	20 grains
Gum arabic	10 grains
Distilled water	1 ounce

SENSITIZER NO. 3.

Silver nitrate	40 grains
Citric acid	15 grains
Oxalic acid	5 grains
Distilled water	1 ounce

This gives still another color and I think more detail in the highest lights, though the image is not apt to be so pronounced, and color flatter in tone.

Here are three formulæ giving results differing in degree, though somewhat similar. The first two are, I think, the best, but that may be a matter of opinion. They are interchangeable, the salting solution of one can be used with the sensitizer of the others, and in this way different effects are at our service. Then again these solutions are elastic, when too strong weaken with water — this being necessary for rough paper — when not brilliant enough add citrate of iron, a grain at a time, and in the case of No. 3 the addition of ferric oxalate as well may be advantageous.

Formula No. 2 is particularly adapted for development in a silver bath. Take of the sensitizer No. 2 one dram and add one ounce of water (or that proportion). The printing should not be carried so far as water development (which with this formula should almost print out in the frame). One or two trials will show just how far to print. A very short exposure and brush development with full strength Sensitizer No. 2 will give still another color, perhaps the most artistic of all.

Experimentation with the salts of iron is very interesting, and surprises await one at every turn. In my attempts, I found that oxalic acid alone used in the formula would not clear the paper, citric acid is essential and I believe the chlorid of copper improves the general result. It is all extremely interesting as well as useful. JAMES THOMSON.

THE CHICAGO CAMERA CLUB.

When the Chicago Society of Amateur Photographers lost its home in the Art Institute on account of new rules coming into force it could not readily find suitable quarters for such a large membership, so the more active members, especially along pictorial lines, decided to let the old society pass away, and to form a new one under the title of the Chicago Camera Club, to be limited to seventy-five members. It is now in active operation, with close on seventy members, being located in very desirable quarters in the Northwestern University building, at the corner of Lake and Dearborn streets, in the very heart of the business district. It possesses convenient darkrooms, new lantern slide and enlarging cameras of the most approved patterns, while there appears on the tables all the American and British photographic magazines. Altogether the club is in very flourishing condition, and if any one of our Chicago readers desires membership, instant application should be made as but a few vacancies are open.

THE Metropolitan Camera Club of New York is the only photographic organization in the world having a studio equipped with the new Cooper Hewitt electric light for portraiture. Full exposure is obtained in 1-5 second with portrait lens, and exquisitely soft effects, with perfect blending of tones, are secured. The results are superior to work by any form of daylight and the advantage of making portraits at night, under the most favorable conditions, is of vital importance to members of a camera club.

PRACTICAL NOTES ON FLORAL DECORATION.

It is amusing to show photographic flower studies to people who know nothing at all about photography: their whole attention is taken up with the subject, and though the plain background really pleases them, they are not aware of it, nor that there is anything peculiar in seeing a flower thus isolated. They criticize kindly, or adversely rather, as they might do if one showed them a pressed flower, and it is always the subject and never the rendering that claims their attention. We put our flower study away with rather complicated feelings, flattered that, to lay minds, there is so little effort discernible, disappointed that they see nothing worthy of remark in the treatment.

How different it is when a photographer sees this kind of work; he may like it or not according to his taste, but it is very certain his first remark will be, "How is it done?"

The method is so very simple that it hardly seems worth explaining, but as it has been called a trick, and as some who have tried to do the same kind of work have not always been successful, there is perhaps a little excuse for the following details, which are only intended to help the beginner to carry out his ideas in the same kind of way.

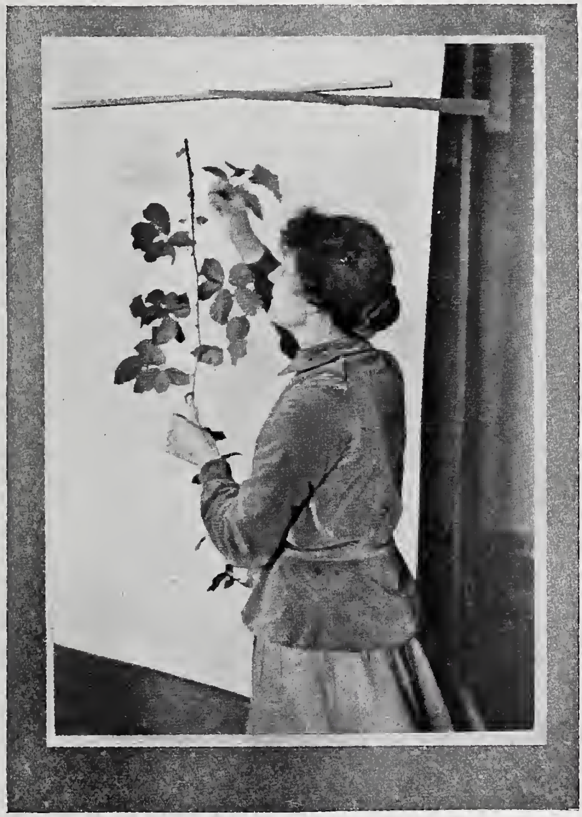


Fig. 1.

The method of getting forms against white seems so obvious, one would think it almost impossible to go wrong, but a little print before me now of a rose trail — a dirty, underexposed muddle — which I am told was done according to my verbal instructions, has made me feel it more satisfactory to be a little more explicit. The young photographer had, in order to get a white background, pinned the flowers close against a white door in that part of a large room where there was least light, and ignoring the profusion of shadows, had given just a very ordinary exposure. The result, as may be imagined, was distressing.

First of all, then, light is very important both for background and subject. If it is the worker's wish to secure a dead white background, he must see that it catches the light evenly all over. It should be slightly tilted to catch as much light as possible, by the bottom of it being pulled out and secured by darkroom pins or weights. If the beginner does not possess a photographic background, he can use a white sheet pinned to a wall that catches a good deal of light, or hung on to a towel horse. Some after irritation may be saved by seeing first that all the creases have been got rid of! For small subjects, an easel with a white sheet of paper will make an excellent background, and can easily be tilted to catch the light. Since the background is really an important subject, and can make or mar a picture, it is well to give it a thorough consideration.

The most convenient one is an ordinary rollable photographic background painted — and it takes a good many coats — a good bluish white. It lasts a long time, and can so easily be refreshed with another coat of paint.

And now to our subjects. Many of them are greatly improved by being represented without any shadows, and this, by some, is looked on as a great difficulty; but it almost seems unnecessary to say it is one that is very easily overcome by placing them far enough away from the background. Of course, if they are pinned like the poor rose trail to a white door, they can hardly help looking very much mixed up in their own shadows, and all sense of design will be lost.

Let us first of all get rid of this difficulty of placing. The easiest plan is to have a little table about two or three feet away from the background, and to put the stem of the subject into anything that will conveniently hold it. A bottle or funnel will make a good kind of pedestal, and a fairly thick piece of cardboard, drilled with holes about the same size as the stems, will make a good holder for a group for a frieze.

A row of short stalked growths, like toadstools, can be done by first placing a piece of wood — a drawing-board or any wooden box would do — on the table, covering it with something white, and then sticking in a row of needles. The little thick stems easily slide over the heads, and some moss arranged round the base detracts from the crudeness and obviousness that are always the difficulties with friezes.

Sometimes we want our design to begin and end in the picture instead of running into it; then the simplest method seems to suspend it by white cotton. I have found an easy way to arrange this is to have two thin pieces of wood nailed to the top of each background support. They stick out rather like gallows about three feet into the room. Across these a rod is laid, and on to this the subject can be hung, and as it is not fixed anywhere, we can move it away or near the background (Fig. 1). I used to tie my cottons to this rod, but have found it much quicker to make a good many notches in it, which hold the cottons quite as well; and as one continually wants to shift them, much time is saved.

Of course, it would be quite possible to employ a skilled carpenter (oh, *rara avis!*) and get him to invent and put up a framework that would take our subjects; but has it not been observed that those who devote too much energy, time, and trouble to the perfection of their mechanical contrivances are not always those who are most successful in their results?

When doing floral decorations, it is perfectly useless to imagine one is going to find a subject exactly suitable. Should fate be so kind, one should be grateful for a very rare chance. As a rule, the design has to be built up, and is often in two or three different pieces that have each suffered a good deal of trimming and altering. These are tied together, or simply pulled together, by the cottons which hold them (Fig. 2). One's aim should be to keep the design consecutive and natural, a following on of a main idea, and it should of course have the appearance of all being one growth.

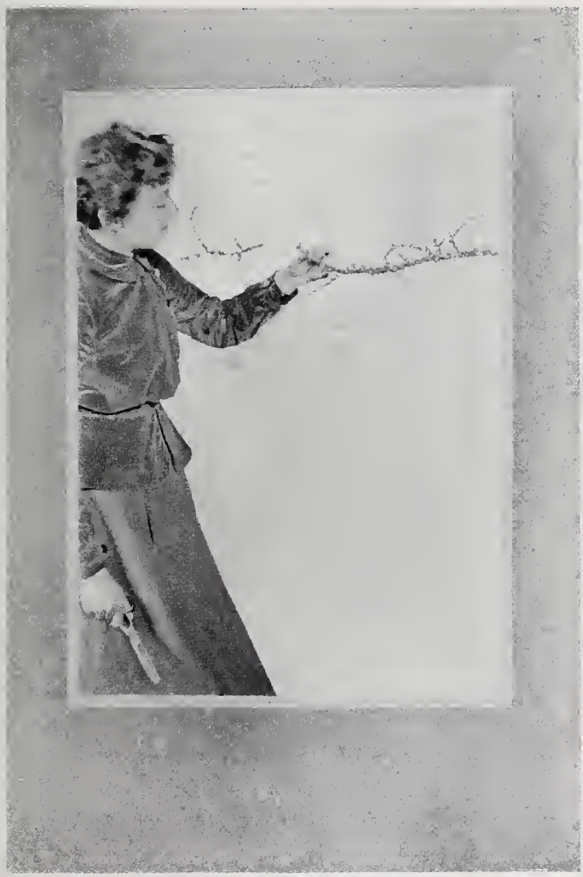


FIG. 2.

It is comfortable and pleasant to sit at the little table working away in a leisurely manner at an interesting design, but, alas! such complacency is not permitted to the decorative flower photographer. No, he must dive underneath his focusing cloth each time the smallest alteration is made, for the design to his eye and through the camera are two quite different things. Sometimes the most charming looking effect, which has been too fascinating to leave for a moment, will, when viewed through the lens, appear absolutely dull and meaningless. It is difficult to realize this, but it is a fact that has given many a flower photographer a lot of unnecessary work. "Had we but looked sooner!" we say to ourselves as we undo an elaborately contrived design, in which the critical lens has discovered too many unsuspected flaws.

It is impossible to lay down any hard and fast rules about design, for it is so much a matter of taste, and also a very limited one, as the camera can only do certain things, and always tries to nip ambition in the bud. There must naturally be a certain harmony of line, and a following on of an accentuated trend. For instance, the little twigs that will go the reverse way to their fellows (Fig. 3) must be sacrificed by the scissors to their originality.

Winter subjects are often rather dark, especially the stalks, and are apt to make too great a contrast with a white background. An easy way of remedying this is to rub a little white chalk on to them, and then almost rub it off again. Splicing small branches or stalks on to bigger ones with cotton their same color is often necessary, but pins stuck in, well out of sight of the searching eye of the lens, is often a more satisfactory way of making an addition, especially if the subject is fairly small.

One piece of advice — do not begin to trim off any leaves, however superfluous they may look, until the subject is in its place against the white background. Then study it well through the camera before touching it, and begin carefully, from the top, to cut off the unnecessary leaves close to the stalk, as probably some of them will be needed to fill up awkward gaps. Never trim rashly, always see first if a leaf can not be bent to accommodate itself to your requirements, and remember it is a good deal easier to take away than to put on.

Unfortunately, there is so much compromise in photography that one can rarely carry out a scheme entirely originated in one's mind — as a rule it has to be evolved after the subject has been secured, which always seems a little undignified! Then the camera will do its best to check every impulse toward pictorial expression, and will try to give one a botanical-looking specimen for one's pains!

Beware of too small a stop — rather sacrifice some merit of the design to getting everything all on one plane — than be obliged to stop down to pinpoint sharpness. Do not either get into a groove of preferring one particular sharpness, for surely this should be entirely governed by the subject. Some broad schemes can as easily be ruined by minute sharpness as delicate small ones by too much diffusion.

Then there is a danger that sometimes threatens those who are wholly devoted to form, namely, that they are rather inclined to overlook the lighting of the subject itself, and to be too indifferent to its tone values. One must oblige one's eyes to take note of this, and to take heed that the subject is placed where it will catch light and show some gradation, or the result will be a silhouette, and charming as this effect often is, it is not always what one had intended.

But all this "understands itself by itself," as the Germans say, and every photographer's ordinary experience has taught him most of it. The only reason that decorative flower studies are not quite as easy as they look is that no one considers such simple little subjects worth the time and attention they really demand. They think a few minutes' manipulation is all that is required, and are very surprised that their results are not all they expected, and have suggested that producing floral decorations against a white background is accomplished by some "trick." Certainly the only one known to the writer is giving a great deal of thought, time and trouble. Any one who is willing to take this work seriously and devote hours instead of minutes to its study, is bound to succeed and become more and more fascinated by this branch of our craft.— *The Amateur Photographer.*

Carine Cadby.

Let me tell you my way of making oilcloth trays. First make a pine tray well nailed together and smooth on the inside. Then fold the oilcloth at the corners to fit in neatly. Then make some good strong paste, half starch and half flour, paste the inside of tray thoroughly, put on oilcloth and rub down smooth. When dry get some good No. 1 carriage varnish and give it a good coat and allow it to dry two days. A coat of varnish after a few months' using will keep the tray in good shape for a long time. J. D. Long.

HINTS TO VACATIONISTS.

Being very appropriate this time of the year, I hope a few hints and words of warning to amateurs about to go on their vacation will be of benefit.

Never experiment; never go away with unfamiliar plates in order to try them, or with an apparatus with which you are not acquainted. If you do, your exposures will be faulty, your patience exhausted and your vacation marred. If you would experiment, if you want to try a new plate or camera, do so at home on scenes that can readily be duplicated; but never when away from home, for the opportunities that knock at your door when in the country photographing seldom knock twice.

Naturally, the first question to arise would be the matter of outfit to be taken along, but this is a question of extent of pocketbook or of carrying space; I will give a few suggestions, however. Always take a dozen plates more than you think you will need at the most. This you will not regret having done in places where plates are not procurable, and if any are brought home they can always be used. Although the carrying case for the camera is not a necessity, yet it is a convenience especially when a shoulder strap is attached. Bring along with you in the case as many plateholders as possible; you will always need them on a day's outing. I recommend to amateurs the purchase of as large a focusing cloth as possible, but it must be absolutely lightproof. It can be used to advantage on a stormy day, to protect the camera. Forget your nightshirt and toothbrush if you would, but be sure to take along your tripod, as no really good work was ever done without one, excepting by chance. Always take along your ray screen and exposure meter, for you will surely have good use for both.

Fig. 3.

Now that the outfit has been itemized I will take for granted that you are comfortably situated in your room in the hotel or farmhouse. I will advise right here to always load holders before starting on your vacation. Did you ever see an experienced backwoodsman carry an unloaded gun for any length of time? Except in places where provisions are made for loading, this operation truly becomes a bugbear. Nevertheless it can be made quite a simple matter. Of course always load at night. Turn out all lights, and if one is burning outside your door ask permission of the management to turn it out temporarily. Then close the shutters outside your window and pull down the shades and you have a very good "darkroom." If, however, any stray light comes in do not mind it but work on, mindful that indirect light is harmless. With very sensitive plates more precautions must be taken. If light comes through the crack in the door set your suit case against it, thus excluding the light. A good method whereby one may load is to do so under the bed, provided you have enough room and are not using a lamp.

Speaking of lamps, let me discourage the use of them. I, personally, never used one when away from home and never loaded a holder with the film side in. The film can be easily detected by moistening the fingers and touching the very edges, which will feel sticky, or by feeling for the rough edge where the film turns up from the glass.

In order always to have the white end of the slides out in the holder, care must be taken to see that they are properly placed in position ready to load before the lights are turned out. It is well before going on a vacation to load in the dark several nights to become accustomed to it.

Now that you are ready to take your tramp through the woods, across meadows and beside gentle streams, let me make the following suggestions: Look to your camera and carrying case; see if the lenses are there; see if you have your plateholders, tripod, the head and screw for same and your ray screen. Be careful not to leave behind your focusing cloth, but if by any chance you should happen to do so, have your coat answer the purpose. Be equally careful also that after each exposure has been made, you do not leave part of your outfit on the ground when you start out for fresh scenes. Never expose the holders any length of time to the hot sun; always keep them in the case or covered up, otherwise the film may fog.

The best method for transferring the exposed plates to the empty plate boxes from the holders, so that you may know just what exposure is on each plate and when developing time arrives, give to each negative the especial treatment necessary for best results, as follows:

Before starting, number each side of every holder from one up, and take with you a piece of paper similarly numbered and a pencil. Then, after each exposure mark the details, such as title of scene, degree of light, stop used and exposure given, on the paper opposite the number corresponding with the one on the exposed side of the holder. Then when you unload at night place the holders in such a position that exposure number one is laid on the bottom of the empty plate box, number two next and so on, always placing them face to face. Say you exposed eight plates the first day out, then the holders must be numbered the second day from nine to twelve and then commencing again with number one, of the second box, as each box should contain but twelve plates. Have each box numbered in large figures, Box No. 1, Box No. 2, and so forth. Corresponding with each box have a paper arranged as follows: Box No. 1 — commencing from the bottom of the box and going up —

1. Sheep Grazing — bright day; stop 16; ray screen used; had faint clouds; exposure 1-25 of second.
2. Etc.

and then after number twelve, mark: "Top plate in box No. 1." Do the same for each box on every paper.

Then when you arrive home do not be impatient to see the resulting pictures. Take your time, giving each plate individual treatment, regardless of the others, even if development should extend over a period of a month after you arrive home. In this way only can you secure the best possible results from each exposed plate. JOSEPH DAVIS.

ON THE DISCOLORATION OF BROMID PRINTS.

WITH AN INCIDENTAL CONSIDERATION OF THE ACID FIXING BATH.

(Read before a recent meeting of the Royal Photographic Society.)

There are several sorts of stains or discolorations by which some bromid workers are frequently troubled, and some from which few bromid workers wholly escape; although some workers will assert that they never had any stains or discolorations in their bromid work. In order to obtain certain results in bromid prints one may use a very active developer which will be very prone to produce stains; and I think you will find that those who never get stains make it a rule never to use a developer that does not suit their particular requirements. To distinguish the various discolorations is the first step; to assert the supposed causes is the second step; and, in the third place, I propose to speak of a proper mode of working to avoid each kind of discoloration.

These are:

(a) Grayness: *slight* gray fog over print; grayish whites.

(b) Yellowness of the print.

(c) Gray-brown discoloration.

All these are seen most upon the whites, of course, and are totally distinct from wrong color or "tone" of the image.

The gray fog is the least often met with, and the most easily prevented. It arises from exposure to light while the paper is still in the sensitive state. An "unsafe" colored developing light may produce it before development, or the faintest reflection of white light from the walls and ceiling while changing and charging the frames, but so will an unsafe light during development. White light — at least with some papers, during fixation; and, in fact, until the final salt or salts removed in the first washing after the fixing bath — will produce this fog. Some papers are less prone to yield gray fog under these conditions, while others are particluarly prone to produce it.

Yellowness and gray-brown fog are the two discolorations now to be considered. The two are clearly distinguished in most cases, but for those who have only suffered from one of the two discolorations, a test which I will give will suffice to make the distinction clear. The yellowness is a development stain. It arises from the precipitation of brown products of oxidation in the developer into the film of the paper during development. The stain will be more readily produced in proportion to —

(1) The age of the developer.

(2) The duration of development.

(3) The rapidity of the particular developer in oxidizing.

(4) Exposure to the air during the development.

(5) The sensitiveness of the film to coloration.

The statement in regard to the last item I can justify by the fact that many papers give the stain continually, unless very short development and very fresh developers are employed; other papers are discolored by amidol, but not by metol-hydroquinone developers. Again, most papers show stain, if any, only later, on inspection by daylight, but a few yield it visibly at an early stage. This yellowing is undoubtedly sensitive to light. It can, for example, be latent, and be rendered visible later by an intensifying action of light.

The gray-brown discoloration is a sulphur stain, and quite distinct from the others. This leads me to suggest a method of working, and I will deal first with discoloration *(c)*.

The acid fixing bath stops development just the same as the "dead stops," sometimes used with bromide and gaslight papers. It acts as a clearing bath, as well as a fixing bath, to clear any development stains which are not in some cases soluble in plain hypo. But it has the possibility of danger within it, owing to the addition of an acid to hyposulphite of soda, and the liability to this danger is what causes many to recommend a plain hypo bath for bromid and chloro-bromid work. A plain hypo bath works very well, although not acting as a "dead stop"; the development, therefore, requiring to be stopped early, but the accumulation of developer therein may lead to stain soon afterward. The plain hypo bath only works well if the developer is one of the non-staining kind, and if the conditions of development are correct. It would, therefore, be better to learn how to make a safe acid fixing bath, and to use it when we desire it. The danger is that any strong acid is liable to decompose the hypo and deposit sulphur. Now to avoid the danger. Great men — men of undoubted greatness in chemical and photographic knowledge—have put forward a bath made with sulphuric acid. This, however, I think is not wise. I think that sulphuric acid is about the worst acid to effect this splitting up tendency; glacial acetic acid is a far better acid for this purpose; while sulphurous acid is supposed not to act in this way on a hypo bath, and, as far as can be seen, this acid may safely be used. The danger of decomposing the hypo and depositing sulphur by the strong acid may generally be obviated or minimized by dissolving all the constituents of the formula separately, and then adding the acid constituent slowly. It is dangerous with any strong acid to pour it into a very strong solution of hypo, particularly one in which there are any particles of hypo still undissolved by water. In my experience, the safest way — an absolutely safe way, in fact — is to import a salt, supersaturated with the acid, into the bath. The cheapest salt of this kind is sodium bisulphite. If sulphurous acid is added in the form of bisulphite of soda (a salt containing the acid in its free form) it is so safe from the decomposing tendency that many firms are selling a dry mixture of the hypo and the bisulphite, to be, of course, dissolved in water together. For plates, the best fixing bath is a solution of hypo in water. An acid bath is, however, useful to prevent development stain of hypo and to stop the development. For negative films, an acid bath is at no time advisable, owing to its great tendency to separate the gelatin from the support; although a solution made up in alum might be expected to obviate this. But negative papers need an acid fixing bath, to avoid a trace of stain on the paper support, the metabisulphite hypo bath being a particularly good one for these paper films. Bromid papers particularly need this bath, as, their effect being positive, and the image being viewed against the white paper, the presence of any vestige of stain is objectionable. A " toned " paper, or colored base, is permissible, because the degree and nature of the coloration is under control, as a fortuitous color can not be.

Now we turn to the yellowness, which has its origin in development, and not in the action of the hypo or acid-hypo. Given the causes, the remedy is clear. Use a developer which does not readily oxidize — like metol-hydroquinone, or, if a more active developer is desired, even though it be constitutionally more addicted to stain, let it be freshly made and quickly used. Let all developers having a tendency to stain have a sufficiency of sulphite, to keep the products of oxidation suspended, and not precipitated in the film; and add the reducer dry at the time of use, or only filter through cotton wool when about to use. Let the exposure be sufficient, so that the immersion in the developer need not be excessively prolonged. Avoid exposing the print unduly to the action of the air. Mr. John Mallia's view is that yellowish whites are most often caused by repeatedly taking the prints out of the developer to examine them during development, thus giving rise to oxidation of the developer, on the gelatin film being brought into contact with the air. Work with plenty of light, so that the prints may be properly examined without their removal from the developer. Let the fixing bath be fresh; that is to say, free from developer discoloration.

With regard to the graying discoloration, knowing that exposure to actinic light is the cause of graying, it is clear that the graying will be avoided if the operator tests the light of the window used when changing the paper; also the developing light; keeps all white light from the prints while fixing; keeps them free from white light for a few minutes in the first washing water — in fact, until the soluble salt is washed out into the water. Of course, imperfect fixing should be guarded against, although three minutes has been said to be sufficient for effecting the fixation of bromid prints. Do not blame the products of the manufacturers. As a rule, I think, we may take it that the plates, films and papers obtainable nowadays are properly made and correct; but sometimes they are fogged by light at the factory; and some of the rapid papers made abroad, and sent over to this country by sea, come "ripened" and most sensitive, even in the high lights of the image. There are those who never find white light fogging their prints in the fixing bath; indeed several people disbelieve that the fixed print can fog. We will deal with this fog for a moment. Mr. Horsley Hinton says of plates that they can be washed and then fixed in a white light freely, but he does not specify any particular make of plates or paper, and the statement appears to be too general. Mr. Arthur W. McCurdy, of the Franklin Institute, Philadelphia, said just the same thing, and that thorough washing before fixing is a *sine qua non.* But here again no particular kind of plate is mentioned. Mr. V. C. Warner confirmed these statements. He used Bradley's "Extra Speed" plates; and he concludes: (1) A plate or film, washed free from reducing agent used in developing, may be fixed as well in light as in dark, and at the convenience of the operator; (2) before fixing, it can be exposed to bright, white light, then redeveloped — in a weaker developer, till the entire surface is veiled — with no reduction of detail, only more printing density; and the result will be free from fog. In my opinion, however, all this is too general; for all these gentlemen lay down one statement for all films. But is this statement correct? Some emulsions will certainly fog under the conditions mentioned. Lumière plates, for instance, could not be taken into white light immediately after development without fogging, and the same is the case, I believe, with Austin Edwards' and Ensign films. And so also in the case of bromid paper; all bromid prints will fog if exposed to white light before fixation, and several will fog in the fixing bath, and until the soluble salt is dissolved out in the first washing water. Associated with this salt may possibly be some unaltered, or only slightly altered, yellow silver bromid.

By Carine Cadby.

VIOLET.

A test to distinguish the sulphur stain from development stain is as follows.

Mercuric chlorid — ordinary bleaching solution for intensification — will soon affect the yellow stain, which contains no sulphur, turning the stain white in a short time; but the gray-brown sulphur fog or veil is only very slowly affected by mercury, which does not entirely bleach it, but only makes it lighter. The yellow development stain is a compound of oxid of silver with the product of oxidation in the developer. This compound is insoluble in plain hypo. Under certain circumstances this yellow stain may pass, by the action of hypo, into a sulphid which is insoluble. Both these facts are arguments for an acid fixing bath.

The old-established idea of the reaction of the crowded fixing bath is possibly an incorrect one. It is perhaps incorrect to say that all silver haloid passes into a double silver salt. Some part of the haloid may be but triflingly modified and remain till perfect fixation is finished, in nearly its original state.

And now to speak of developers that tend to stain. It would almost seem as if the tendency to give yellowish stain were in some way associated with the amido radical in the constitution. Amidol is found to readily stain, and several others containing NH_2 in their formula are also prone to stain. Those of the new synthetic reducing compounds which have not the NH_2 radical are free from this tendency (the one exception as far as I know being pyrogallol). I throw this out merely as a query for the learned to answer. It is, of course, beyond the province of a mere worker like myself.

The acid-hypo bath is used for plates to avoid blistering, and also to prevent stains in the film, chiefly because of the use of the alkaline carbonates, or because the concentration of new developers (caused by use of large quantities of sodium sulphite in conjunction with alkaline carbonates) tends to blister.

The sulphur difficulty is a great difficulty, as much in the acid fixing bath as in the notorious combined toning and fixing bath. Theoretically, the addition of acid to the hypo must produce the liberation of sulphur; an acid salt should, of course, act likewise. This formation is readily observed by adding in a test tube a crystal of citric acid to some hypo solution, and then gently heating it, when a white, curdy precipitate will gradually appear. If only a small quantity of acid be present, milkiness ensues, and the precipitate separates more slowly. The sulphur difficulty is much delayed (but not, I believe, prevented, when an old solution is used) if the acid and the hypo are separately dissolved, allowed to cool, and slowly added together, although a long delay before use seems to make the action very great. When alum is used with hypo many dangers arise, the separation of sulphur being almost inevitable.

With silver present, the sulphur precipitated in the film is very ready to form silver sulphid. With interrupted fixation, some of the sensitive salts may be left in to fade, discolor or to perform a multitude of reactions. But acid directly added to alum and hypo solutions many effect many changes, good or bad. The danger is that a strongly acid substance is liable to decompose the hypo, liberating sulphuretted hydrogen, and depositing sulphur; or it will liberate hypo-sulphurous acid, which splits up into sulphurous acid and sulphur. But the process of the deposition of sulphur is very slow, while the presence of the sulphurous acid, as well as the hyposulphurous, and the excess of the hyposulphite of soda, keeps the bath useful and the prints clean. The process seems to me to be that, when an acid-hypo bath is used, it will eventually act in depositing sulphur. This process, however, is extremely slow; so slow, indeed, that we may ignore it in the early stages of the bath. That is why, in using the alum-hypo bath for sepia toning, it acts best when old, and worst when quite new. Conversely, it acts as an acid fixing bath best when new and worst when old.

A safe acid bath may be made according to this formula:

Hyposulphite of soda......	4 parts
Metabisulphite of potash...	1 part
Water	20 parts

But the metabisulphite is costly, and

the same result is obtained with bisulphite of soda. For plates we may have two stock solutions, made as follows:

NO. 1.

Hyposulphite of soda	1 pound
Water	50 ounces

This should be well dissolved; for, if we are going to have any danger at all, it is most likely to occur when the hyposulphite is not in perfect solution.

NO. 2.

Bisulphite of soda	4 ounces
Water	20 ounces

This should be kept in a stoppered "Winchester." For use, one bulk of No. 2 should be added to ten times the quantity of No. 1. For papers — bromid, etc.— dilute with from 25 to 50 per cent of water. If using amidol, add it dry at the time of use, to avoid stain. Another way is to dissolve it in part of the water used, and filter the solution with the other dissolved constituents. An excellent formula for good black prints is:

Sulphite of soda	1½ ounces
Bromid of potassium	15 grains
Water	15 ounces
Amidol (added at time of use)	60 grains

(or 4 grains to 1 ounce.)

This will work all the better if the sulphite is also freshly dissolved.

Another formula for soft gray prints is:

Sulphite of soda	3 ounces
Water	80 ounces
Metabisulphite of potash	12 grains
Bromid of potassium	8 grains

Filter one ounce bottle amidol into this by part of the solution.

The lecturer then showed some prints to illustrate his remarks. One of the prints in which very strong gradation was required had been produced by a non-staining developer. In the case of one of the prints, the amidol developer as above had been used, the result being a perfectly unstained picture. White, clean prints could be produced by the metol-hydroquinone developer, but this was a somewhat harsh developer. While amidol produced softness in a print, as found in platinum prints, it need not necessarily produce yellowness.— *The Photographic News.*

A. G. FIELD.

By Carine Cadby.

HYACINTH.

JUBILEE OF A PHOTOGRAPHIC JOURNAL.

The *British Journal of Photography*, the oldest photographic journal in the world, in its issue of June 10, celebrates the beginning of the fifty-first volume. As would be expected, many of the old contributors indulge freely in interesting reminiscences, while the younger generation make practical contributions on modern subjects. Altogether, it is a large and interesting issue, and we can but wish it even greater success in the second half-century of its existence than it has had in the first.

A NEW LENS.

The Bausch & Lomb Optical Company, Rochester, New York, is sending out literature descriptive of the new lens — Tessar *f* 6.3, the latest product of the genius of Dr. P. Rudolph, member of the famous Zeiss staff of scientific experts. The Rochester Company, having completed arrangements for production, announces its ability to fill all orders for the new objective promptly. Circulars, gotten out in an attractive manner, are supplied by photo dealers throughout the country or may be had on request from the company's Rochester or branch offices.

Tessar is made in America by Bausch & Lomb exclusively. The inventor's original formula is followed and a new Jena glass, manufactured especially for this purpose, is employed.

Tessar is the result of the latest optical computations and possesses certain qualities in a unique degree. One of its most startling characteristics, when its remarkable performances are considered, is its simplicity. It is an unsymmetrical doublet of four thin lenses, with an uncemented front pair and a cemented rear pair. The separation of the elements is such as readily to permit the Volute or Iris Diaphragm shutters to be fitted. It is compact and light and may be attached to any hand camera. The speed is *f* 6.3, sufficient for all instantaneous work. The price is relatively low.

The two greatest qualities of this lens, however, are the ones which give it a unique position among highest grade photographic lenses. In spite of the simplicity of construction it possesses a wonderful power of gathering and transmitting light. The illumination is uniform over the entire plate from center to margin. Its corrections are perfect, giving precise sharpness of definition over a field of very wide angular extent.

Tessar is suited for all hand camera and instantaneous work, portraiture, groups, landscapes, industrial and reproductive photography, copying, enlarging and projection. It is best appreciated wherever its great defining power is an important consideration. Wherever the photographic conditions are unusual and uncommon, the Tessar will give most satisfactory results.

PYRO.

DEAR SIR,— I notice on page 170 of June number of PHOTO-BEACON that Mr. M. Meigs, in advocating the use of amidol, makes the statement that pyro will not keep in solution longer than two weeks. I wish to state that I have used pyro for nearly eight months, and it has never yet deteriorated in that time; in fact, I have about two ounces of pyro solution which I have had made up for eight months, and it is not even yellow. Of course when pyro is mixed up with sulphite of soda it deteriorates very rapidly. The way to overcome this is to have your pyro in one solution and your sulphite in another, and your carbonate in still another solution, which is the only correct method. I mix up my carbonate to test 40, 32 ounces; sulphite to test 60, 32 ounces. Then I take 1 ounce of pyro and dissolve in 16 ounces of pure water and add from 12 to 15 grains of oxalic acid.

To use take 1 ounce of each solution and add 12 to 20 ounces of water.

Any one wanting to make up these solutions by weight can find the same on direction sheet found in any box of Cramer's dry plates.

Yours respectfully,
M. L. WOLF.

THE British Photographic Salon, held under the auspices of the "Linked Ring," will be from September 16 to November 5, 1904. All American prints intended for this Salon must be submitted to Alfred Stieglitz, care George F. Of, 3 East Twenty-eighth street, New York city, from whom full particulars may be secured.

NOW READY, new edition of "The Photo-Beacon Exposure Tables"—50th thousand — price 25 cents. Many important changes in the speed of plates will be found in this edition.

DARKROOM ILLUMINATION.

BY PHIL M. RILEY.

After visiting the darkrooms of some of my friends last summer, it was brought very forcibly to my notice that there seems to be a great difference of opinion as to how much light should be used during development and what the color of the light should be. Perhaps the fact was especially noticeable among the beginners. Some workers found it very pleasant to read books or magazines during prolonged development, while others worked most of the time in total darkness. It seems to me that this should not be a matter of opinion, and would not be if the majority of amateurs knew more of the principles of light and its relation to photography. The parlor with the shades drawn is not a darkroom; even the dining-room of a Boston flat can hardly be considered photographically dark. The darkness must be absolute, with the exception of one small source which emits enough light to work by and at the same time a light which will not endanger the plates during development. Good work requires all the light we can have without endangering the plates, and just what this light shall be, its color and intensity, depend in a large measure upon the nature of the work under consideration.

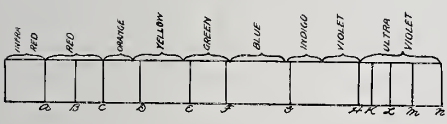


FIG. 1.

In order that we may better understand the subject of light, let us try a few simple experiments which can easily be performed in a darkened room, with a small glass prism and a few bits of colored glass. A room having but one window is an admirable place. Let us block out the window with opaque black paper, and having cut a fine slit-like opening in the paper, place a screen of white paper at some little distance away. A narrow band of white light is thus thrown upon the screen. If we place the glass prism in the path of this beam of light, the beam is refracted from its straight course and decomposed, producing a band of seven colors called the solar spectrum.

By the use of a second prism these colors may be recomposed to produce white light. This proves that what we regard as white light is a combination of seven colors which produce the sensation of white light by their simultaneous effect upon the eye. As shown in Fig. 1, the colors are red, orange, yellow, green, blue, indigo and violet. Beyond the red is an invisible band known as the infra red or heat rays, while beyond the violet is a similar invisible band known as the ultra violet or chemical rays.

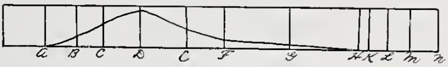


Fig. 2.

Fig. 1 also shows the most important Fraunhofer lines which cross the spectrum. These lines, discovered by Fraunhofer, furnish convenient points of reference in the spectrum and the letters of the alphabet designate the lines of greatest importance.

We notice in our study of the spectrum that the several bands differ in light intensity or luminosity as well as in color. The violet seems darkest to the eye, while the yellow seems brightest. In other words, violet has the least intensity or luminosity and yellow the greatest. We can readily show the relative intensities of the spectrum colors by an ascending or descending curve, according to the increase or decrease of color luminosity, as shown in Fig. 2.

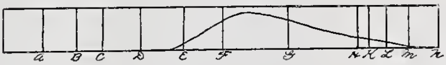


Fig. 3.

Let us continue our experiments, and make a photograph of the spectrum, using a plate some longer than the visible spectrum on the screen. After our negative is developed, we find that it shows opacity far beyond the extent of the violet band. This proves that the ultra violet rays, although invisible, actively impress the plate. Opacity continues through the indigo and blue bands, gradually decreasing through the greenish-blue band, and the glass becomes clear near the line E in the green band. It will be seen that the ultra violet, violet, indigo and blue rays actively impress the plate, while the green, yellow, orange and red rays have very little effect. Our curve for the relative opacity produced in the negative by the color bands is shown in Fig. 3.

Let us compare Fig. 2 with Fig. 3. We see at once that the plate sensitiveness is almost the reverse of the color luminosities; also that the ordinary dry plate is oversensitive to the spectrum from beyond H to F, and too little sensitive from F to A. In other words, the photographic plate is little sensitive to red, orange, yellow and green. It is now a question which color has the least effect upon a plate exposed to it. In our spectrum negative, the opacity becomes less from F to E, and the glass gradually becomes clear just beyond E. From this we naturally suppose that, of the colors from F to A, the dry plate is most sensitive to green and least sensitive to red, the yellow and orange ranging between. This supposition is correct.

Let us continue the experiments with the spectrum thrown upon the screen. By placing a piece of ruby glass in the beam of light before it reaches the prism only the red rays, from A to C, appear on the screen. The other colors have been absorbed by the red, and if we collect the different shades of red on the screen and recombine them, the resulting color will be that of the ruby glass. Let us substitute a piece of orange glass. This time we get on our screen the red, orange, yellow and green rays. The blue, indigo and violet rays have been absorbed by the orange, and a combination of the red, yellow and green rays on the screen produces the orange of our piece of glass.

It is this absorption of rays of light which determines the color of the objects about us. No object has color of itself. Color is the result of the action an object has upon the light falling on it. All objects have the power of absorbing certain light rays and reflecting others, and the effect of these reflected rays upon the eye produces the sensation of color.

A safe darkroom light must be selected by this test of absorption. For work with rapid plates we must find a light which will permit us to see what we are doing, and at the same time one which will have no effect upon our plate. Hence we choose as a covering for our lamp or window a substance of the color which will absorb all the light rays to which our plates are sensitive, and will reflect or transmit only those rays which have little or no effect. The entire purpose of these coverings is that they act as a filter of the light passing through them, absorbing the blue, indigo and violet rays of light to which the photographic plate is oversensitive, and transmitting only the red rays which are almost inactive.

In our experiments we have seen that the red, orange, yellow and green rays are transmitted through orange glass. Our spectrum negative shows that the photographic plate is slightly sensitive to the green rays. This proves that orange is an unsafe light for use with rapid plates, as they are sensitive enough to green and yellow to be fogged during development. It may be used, however, very satisfactorily for slow plates and bromide paper. The combination of green and orange sometimes advised will readily be seen to be unsafe.

Our experiments have also shown us that the red rays are transmitted through ruby glass while all of the other rays are almost wholly absorbed by the glass. Since the photographic plate is least sensitive to red, it is obvious that this is the most nearly safe light for use in the manipulation of rapid plates. I may state here a fact which doubtless every one appreciates, that no light is absolutely safe in a prolonged exposure, where sufficient amount is used to properly examine the plate. However, a red light properly arranged is sufficiently safe for all necessary manipulation during development.

My instructions for making a safe covering for a developing light are to secure a deep, ruby glass and between this and the eyes place as many sheets of postoffice paper as the volume of light will permit. I always advise the use of artificial light — gas, electric or lamp — because daylight varies to such an extent that one is very apt to misjudge the strength of negatives. There is a great difference in the quality of ruby glass. Some cheap samples allow the passage of sufficient green and yellow light to fog a rapid plate. For this reason it is always advisable to use one or more sheets of postoffice paper to absorb such rays should they be transmitted through the glass. The use of this paper is also an easy method of regulating the intensity of the light.

Fred Jukes, Rawlins, Wyo.

A NIGHT'S WORK AHEAD.

A ruby light should always be tested before any work is attempted with it. The light may be tested as follows:

Take a plateholder containing a plate of the brand you are using, and go into the darkroom. Draw the slide partly out and expose the plate to the developing light for ten minutes in the place where you usually develop and fill your holders. Develop as usual, keeping the tray covered to prevent any further action of actinic light. If there is any indication of density after the plate is fixed the light may be considered as unsafe, and more postoffice paper will need to be used. After making sure that your light is comparatively safe, do not imagine that it will last forever, and never test it again. The postoffice paper will fade in time, and even ruby glass sometimes loses its nonactinic value. When changing from one brand of plates to another, the light should be tested, as different plates vary in sensitiveness.

Plates should never be exposed, even to red light, longer than is absolutely necessary. It will be found convenient to have a few covers with which to protect trays during long development. This is especially advisable in the case of work with focal plate shutters. When such short exposures are made, it is often necessary to prolong development in a very weak solution for nearly an hour. So long an exposure to the developing light would produce fog in the negative, but a cover placed over the tray obviates this danger.

Since orthochromatic plates are very sensitive to green, yellow, orange and red, it follows that the light must be tested with still greater care than for an ordinary brand. We can not allow ourselves the amount of light permissible with a more imperfectly sensitive emulsion. With the exception of a few brands especially sensitized for red, all orthochromatic plates may be safely developed under a deep ruby light covered with two or three sheets of postoffice paper, provided that the tray is covered as soon as the developer is flowed over the plate and close examination before the light avoided as much as possible. Plates which are oversensitive to red and green are not very common and are always accompanied with the maker's most explicit directions.

REPRODUCTION OF MEDALS AND OTHER BAS-RELIEFS.

The most faithful way is, strictly speaking, to photograph the medal, etc., as it stands, in its bright, bare state; but in order to realize how little of the design and inscription is at its best from any one position of view, take your medal, or as a substitute a new coin of the realm, hold it quite still, and look at it, closing one eye. One instinctively shifts the position of such bas-reliefs upon bright metal so as to bring the position successively into the best angle of view for the different portions. Unless the medals under treatment can be dealt with in some way to remove their mirror-like surface, a quite false effect is the outcome, giving blackness where we expected brilliance, and white marks where dark tool-cuts should be seen.

Commercial requirements demand something more than fidelity to an effect in a given position — not an untruth, but, shall we say, a little glorification of facts. The metallic glitter of a medal preserved in new condition means a few fine flashing points, but a large area of exaggerated blackness, which is always a source of disappointment to him who first essays to photograph burnished metallic articles.

The customary method of reproducing medals is to obtain a plaster matrix from the medal and a further plaster cast from this — or to omit the second cast, working only from the matrix without reversal of the negative. Either of these methods is good as to results, but the appointment of a person delicate-fingered enough to deal satisfactorily with the molding means perhaps inconvenience to workshop routine and undue consumption of time.

Treatment of the metallic surface by the fuming or sublimation method here described involves so little extra either in time or material that a couple of shillings or so beyond ordinary block prices means a liberal profit for such work.

Again, medal-winners seldom like their hard-won trophies to be sent out of their town to strange firms for reproduction. Here lies the advantage of the present method; the local photographer can fume the medal or medals, copying and reproducing these in the form of silver prints which may be sent away to the engraver at much less risk.

The process is brevity itself. The medal to be treated is glued at the unwanted side, and a tab of tough thick manila is attached, and in its turn glued to an eighth-sheet board. This is placed under a weight for any convenient length of time beyond a quarter of an hour, to insure firm adhesion. Then a strip of magnesium about four inches long is burnt close beneath the inverted medal. That is all. The result is a surface of delicate gray with the tiniest relief and details showing magnificently. Stick the supporting card to the copyboard by two drawing pins and let the operator fire away, treating the coated medals as though they were platinotypes as to time of exposure. Obviously, to show the relief to good advantage, a strong acute-angle side-light is necessary, the darker side being devoid of reflectors. This fuming method, by the way, does no injury to the medals, the clinging oxide of magnesia being perfectly innocuous to gold, silver and bronze. It is removed by the gentle application of a jeweler's brush, an old and soft tooth-brush serving as an excellent substitute. HAROLD HOOD.

PHOTOGRAPHERS' ASSOCIATION OF NORTH AMERICA.

In Chicago, on June 27, was held a meeting of professional photographers in sympathy with a movement to advance the financial interests of the profession.

To attain this end it was agreed to organize The Photographers' Association of North America, whose work it would be to grant diplomas of efficiency to photographers in business, and certificates of ability to employes. A plan was also agreed upon for the establishment of an apprenticeship system, so as to insure a sufficient supply of really good workmen, and to discourage individuals from entering photography who did not possess the natural aptitude for the calling.

The following were unanimously elected to office:

President, George G. Holloway, Terre Haute, Indiana.

Vice-President, Frank Medlar, Spencer, Iowa.

Secretary, F. Dundas Todd, Chicago.

Treasurer, William L. Koehne, Chicago.

Board of Directors: The above officers, with R. H. Mann, Virginia, Illinois; C. H. Van de Venter, Decatur, Illinois; H. M. Henshel, Chicago.

Board of Examiners: F. Dundas Todd, Charles E. Smith and Rad. Coover.

Full particulars will be gladly sent by the Secretary. F. DUNDAS TODD,
908 Security bldg.,
Chicago.

THE BOSTON CONVENTION.

The outlook for the eighth annual convention of the New England Association, August 24, 25 and 26, is very encouraging. A large attendance is already assured; it is expected that no less than one thousand photographers will be present.

The American Aristo Company will repeat its Chautauqua School of Photography, having in connection with it the finest exhibition of pictures ever placed by them in any convention; with their added experience it will probably be superior in educational advantages to the school held at Celeron.

This means an opportunity never before offered to the New England fraternity. Besides the school, the Executive Board is preparing a program that will be especially valuable.

The social features of this year's meet will be very attractive. The New England boys believe that the fraternal spirit fully developed is the greatest factor toward better photographic conditions. Quoting President Tingley, "We are getting to be a big family and a jolly one, too! We plant the seed of friendship every year at these gatherings, and it is simply wonderful how it does grow and bloom."

A goodly amount of time will be devoted to entertainment, and the Boston boys are putting in good work to that end.

We extend to all photographers, wherever located, a hearty invitation to come to Boston, where they will find the glad hand of goodfellowship extended.

Geo. M. Bolin.

J. C. STRAUSS IS HONORED.

The French Minister of Public Instruction and Fine Arts, through the French commission to the World's Fair, has conferred upon Julius C. Strauss, St. Louis, the certificate and violet of an officer de academie. Similar certificates have been given to President Roosevelt and Secretary of State John Hay.

The insignia was pinned on Mr. Strauss by Paul Lascombes, the special representative here of the French minister. He was accompanied to the studio by Paul Delestra, the French Commissioner of Fine Arts; Marcel Horteloup, Resident Commissioner of Fine Arts; Felix Lamy, secretary of the French commission, and Charles Gerschel, representative of the *De La Vie Illustree*, of Paris. The name of J. Chaumie, the French minister, heads the list of the signers of the certificate.

Rotograph, B. Russegger, sales agent, has gone out of existence, and The Rotograph Company has taken its place. The new company is an incorporated one under the laws of the city of New York, with a capital of $300,000. The officers of same are Arthur Schwarz, president; Ludwig Knackstedt, vice-president, and Frederick Schang, treasurer and general manager.

The address of the new company will be 771-773 East One Hundred and Sixty-fourth street. It is the intention of the new company to manufacture all their products in this country at the above address, and in addition, to print their line of art pictures, and add to same a most beautiful line of postal cards, embracing all the prominent cities, resorts and points of interest throughout the whole United States.

We feel sure that the American public will appreciate this new departure, and bespeak for the new company a vastly increased business.

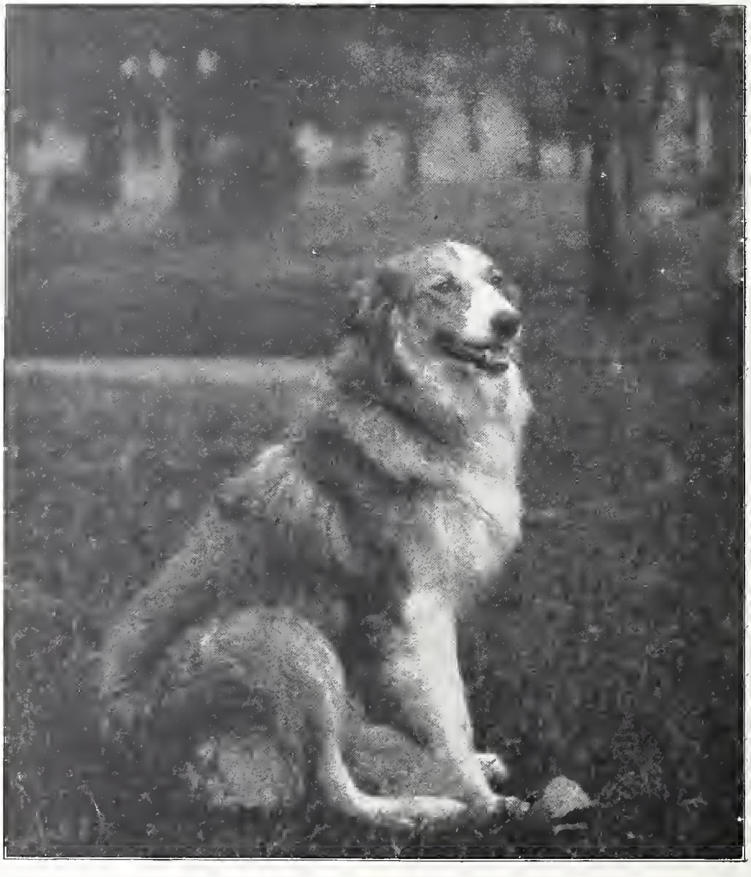
EDITORIAL TABLE

Tennant & Ward, 287 Fourth avenue, New York, have just issued a complete list of books on photography that contains the name of every book on the subject that is published in the English language, with very full particulars regarding each. As this list is the only complete one published we feel certain all interested will be glad to obtain a copy, which will be sent on application.

Aristo Self-toning Paper is a new paper for the amateur. Aristo-Platino has been beyond most of this class of workers simply because of the skill required in its manipulation, the double bath requiring steady practice to insure always the best results with the average man. From the factory we have received prints, one made on fresh stock, one on paper three months old, and these show the good keeping quality of the paper. We also received samples for trial, and on looking through the instructions thought they seemed very simple, and so decided to try them, not on the dog, but on the "kid," the aforesaid kid being a boy of thirteen who is learning the gentle art of photography at our expense. This kid in a few lessons has learned to make a beautiful negative by purely mechanical means, but knows little of printing beyond blue and sepia papers, so a package was turned over to him with orders to follow instructions exactly, and to perpetrate no fool nonsense. He worked all by himself and turned out a lot of very presentable prints, so we can confidently recommend this paper to even beginners. It is for sale by all dealers.

THE PHOTO-BEACON.
AN ILLUSTRATED PHOTOGRAPHIC JOURNAL
Published Monthly.
Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All communications relating to The Photo-Beacon should be addressed to
THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621 Broadway, New York.



Robt. E. Weeks, Chicago.

FIRST PRIZE.

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 908 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XVI. AUGUST, 1904. NO. 8.

PHOTOGRAPHY AS A PROFESSION.

THIRD ARTICLE.

CERTIFICATES.

These shall consist of employer, all-round workman, operator, retoucher and printer, each good for one year only from date of issue. There shall be three grades in each — ordinary, honor and extra honor. The ordinary certificate shall be granted for possession of ordinary technical skill, the honor certificates for knowledge of theoretical principles chiefly.

Those who on December 31, 1904, have been for at least two years engaged in photographic work will be granted ordinary certificates on submitting proof to the board of examiners that they possess fair technical skill in the branch or branches of the art they profess. For further particulars consult special paragraphs.

EMPLOYER CERTIFICATES.

Ordinary certificates. These will be granted to all photographers in business on December 31, 1904, who can prove to the satisfaction of the examining board that a fair grade of work is being made in their place of business.

Any one starting in business as a photographer after December 31, 1904, will be granted an employer certificate without examination if he already hold an all-round workman certificate, the grade of the new certificate to be the same as he previously held. Should he not hold an all-round workman certificate, before he can secure an employer certificate he must qualify by examination in the department or departments in which he is deficient, according to the rules regulating such department or departments.

Honor and extra-honor certificates. These will be granted to such photographers in business on December 31, 1904, who qualify by examination in the corresponding grades as operator, retoucher and printer, and to those who start in business after that date who already hold corresponding certificates as all-round workmen, or who afterwards gain them by examination. These certificates may also be granted to holders of the ordinary certificate who gain some very distinctive recognition from a non-professional body on account of pictorial excellence.

ALL-ROUND WORKMAN'S CERTIFICATE.

All-round certificates will be granted to those who have qualified in the three departments as operator, retoucher and printer. Each certificate will state the grade attained in each.

OPERATOR CERTIFICATES.

Ordinary Certificate.— This grade of certificate will be granted to any one who has had at least two years' experience as an employe, on proving to the satisfaction of the examining board that he or she can make the following portraits: Child under seven, full length and bust figures of young man and young woman, family group of not more than five people, mother and child, old man and old woman. The candidate must be able to expose and develop correctly, the negatives to be such as will give good gradation when printed on mat surface paper. He or she must also be able to intensify and reduce negatives.

Honor Certificate.—In addition to the above the candidate must know the chemistry of photography as found in the constitution of a photographic plate, the action of light and developing salts on the same; the chemistry of the various intensification and reduction processes, and the elementary principles of optics as embodied in a photographic lens. He or she must be able to draw a figure in line either from life or model; and be familiar with the theory of portrait lighting.

Extra Honor Certificate.—In addition to the above the candidate must possess a good knowledge of the theory of composition and values.

RETOUCHER CERTIFICATES.

Ordinary Certificate.—This grade of certificate will be granted to any one who has had at least two years' experience as an employe on proving to the satisfaction of the examining board that he or she can retouch equal to the standard required in a good studio.

Honor Certificate.—In addition to the above the candidate must be able to etch on the film, and to make a shaded drawing of a plaster cast of the human head, special attention being given to the principal lines and muscles.

Extra Honor Certificate.—In addition to the above the candidate must be able to name the muscles and bones of the human head, and to make a shaded drawing of the head and bust of a plaster cast, special attention being given to the lines and muscles.

PRINTER CERTIFICATES.

Ordinary Certificate.—This grade of certificate will be granted to any one who has had at least two years' experience as an employe on proving to the satisfaction of the examining board that he or she is able to work both glossy and mat printing-out-papers, glossy and mat printing-in-papers — such as Velox — the brands to be worked being selected by the candidate. He or she must be able to mount prints neatly on any standard mount on the market.

Honor Certificate.—In addition to the above the candidate must be able to make platinum prints — brand to be selected by the candidate; be able to subdue contrasty effects by local printing or otherwise, and to show a knowledge of the chemistry of photography as applicable to silver and platinum printing, and be able to test both silver and platinum prints as to whether they have been sufficiently fixed or washed.

Extra Honor Certificate.—In addition to the above to be able to sensitize carbon tissue, print and develop it, and to be able to explain the chemistry of the process.

APPRENTICES.

Any person entering the profession of photography after December 31, 1904, in order to be eligible for certificates must fulfil the following conditions:

1. He or she must be sixteen years of age, have attended at least two years at a high school and must be able to make direct from the object a satisfactory outline drawing of an ordinary table, chair or couch.

2. He or she must show a service of at least two whole years — unemployed time shall not be counted — with certificated photographer or photographers. Apprenticeship will be considered as commencing with the date when the preliminary drawing examination was successfully passed and proof of age and school career has been admitted. At the end of the apprenticeship period the various employes' certificates may be attempted at any duly appointed examination and in any order.

Students of any college of photography who have attended a course of at least two years length will be considered as having served the regular apprenticeship, provided they pass the preliminary drawing test not later than the date of attempting their first examination.

METHOD OF GRANTING CERTIFICATES

To those now engaged in photography as a business or occupation:

1. Those owning or renting a studio must send in to the examining board twelve cabinet prints showing variety in age of subject and style of work. All labor expended in the production of these prints must be done by the regular studio staff. An examination fee of $2 must accompany the application. If applicant satisfy the examination board he will be notified to that effect, and certificate will be granted on receipt of the membership fee of $5. Should the applicant fail to qualify he will be notified of the fact and suggestions given him as to how he can bring his work up to the standard. He may again make application for a certificate whenever he feels he has attained the necessary skill.

2. Employes must make application to the examining board stating whether it be for an all-round workman, operator, retoucher or printer certificate, and in their application must give the name and address of their employers for at least two years prior to the date of application. A fee of $2 must accompany the application. The examining board will at once communicate with the previous employers to learn the estimation in which the applicant is held as a workman, and from the replies determine whether he is eligible for a certificate or not. In case any applicant who has been refused a certificate feels he has not been fairly treated he may appeal to the board for an examination, and it shall be the duty of the board to arrange reasonable opportunity for the applicant to take such examination within six weeks of the date of his appeal.

Paul R. Morrison, Catskill, N. Y.

SECOND PRIZE.

For this special examination a fee of $5 will be charged, but the amount will be refunded if the candidate pass the examination.

When the examining board has decided that the applicant has qualified for the certificate, he or she shall be notified and the certificate will be granted on payment of $1.

PICTORIAL COMPETITION No. 74.

It is said that when the average man buys a camera his first idea is to photograph all his belongings — wife, children, house, dog, cat, etc. If this be true, then the domestic animal competition should be a popular one, but it is only fairly patronized, and I regret to say the quality of the work sent in on the whole is rather commonplace. I know from experience how hard it is to get a dog into a good position, for although I have tried a dozen times I have not yet succeeded in securing a decent photograph of the collie dog that lives with us, and yet he is a very sensible animal.

Gambier Bolton, the most famous animal photographer, says that a good picture of any animal should show the head, four legs and the tail, but I find only one photograph in this competition that really conforms to his rule. It is a capital bit of action, but unfortunately the judges thought it rather deficient in tone, a fault the maker could by judicious manipulation easily remedy.

The following are the awards:

First Prize — R. E. Weeks, 545 Lunt avenue, Rogers Park, Illinois.

Second Prize — Paul R. Morrison, Catskill, New York.

Third Prize — Joe R. Iglick, 29 Asbury street, Rochester, New York.

Special Mention — F. R. Thompson, James Thompson, F. E. Bronson, Colin Napier, George F. Mannel, Julia H. Elton, Mrs. J. C. Sheridan, Mrs. W. W. Bosanko, A. L. Thomas.

PARTICULARS OF WINNING PICTURES.

First Prize — Made in June in bright sunshine, with rear combination of plastigmat lens on instantaneous Iso Plate. Exposure, 1-25 second. Printed on W. & C. platinum and toned with mercury.

Second Prize — Made in June at 10 A.M. on Standard Extra Plate, Stop f-8. Exposure, ½ second. Printed on platinum.

Third Prize — Made in June at 4 P.M. on Standard plate. Exposure ½ second. Printed on Eastman's Sepia paper.

FUTURE COMPETITIONS.

Competition No. 76 — Branch of a tree with leaves, with special consideration of decorative effect. Closes August 31.

Competition No. 77. —"At Home" portraiture, that is, portraits not made in a studio. Closes September 30.

Competition No. 78—Snap-shot pictures. Closes October 31.

Competition No. 79 — Landscapes. Closes November 30.

Competition No. 80 — Flower pictures. Closes December 31.

Competition No. 81 — Sharp-focus competition, either landscape or waterscape subjects. Closes December 31.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else.* The outside of the package, in addition to our address, may bear that of sender. Accompanying a letter or postcard should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.

2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.

3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.

Second — Books to the value of $2.50.

Third — Books to the value of $1.

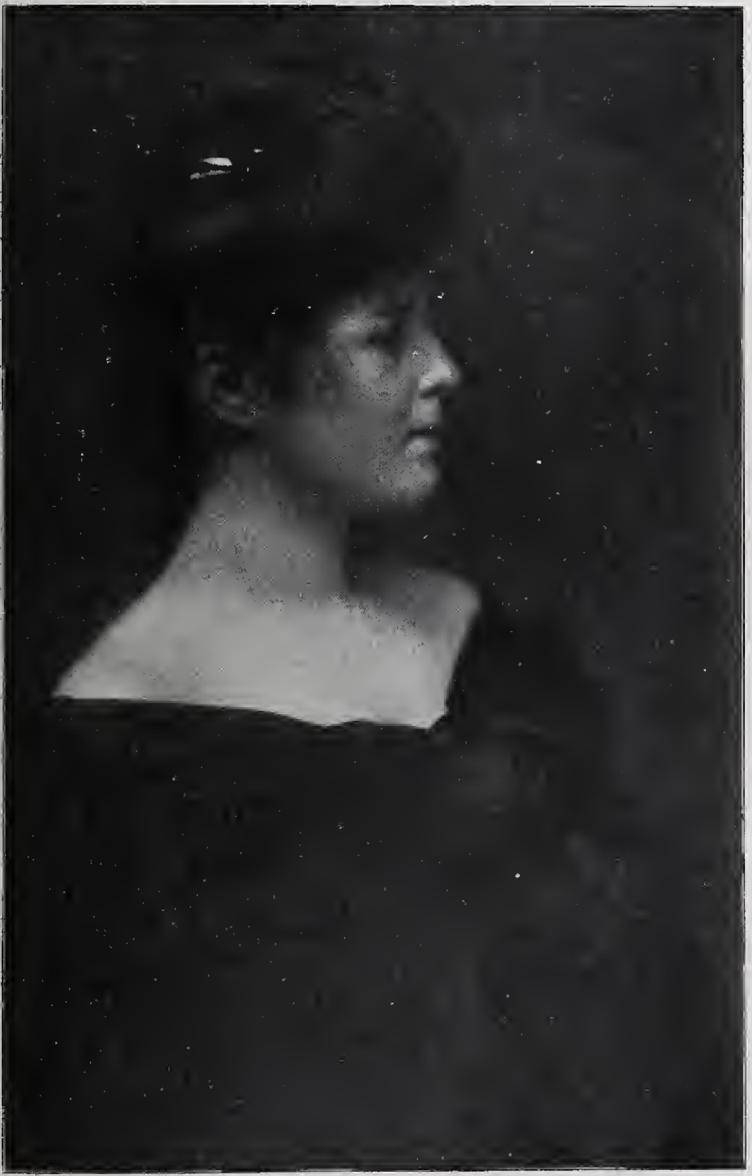
Any books, on any subject, or if preferred, any article we can buy in Chicago.

WORLD'S FAIR DARKROOM.

In response to many inquiries as to whether or not any hotel in St. Louis is provided with darkroom accommodation, we beg to say that Mr. W. J. Hazenstab, 6229 Clifton avenue, St. Louis, has provided such. We have known Mr. Hazenstab for many years; one of our staff has stayed for almost a week at his place, and so we can recommend both the man and the place.

PROFESSIONAL PORTRAIT COMPETITION No. 7.

As I was getting ready to overhaul the prints sent in for this competition I had a visit from a lady who several years ago was engaged in the finishing and retouching branch of photography. Of late years she has been more concerned with general art matters, so I told her what I was about to do. She began to give me her estimate of professional portraiture, and then I placed before her the prints sent in for this month's competition. Need it be said she was simply amazed at the change that had come over photographers in



FIRST PRIZE.

the past half dozen years — a change I am afraid is not realized by photographers themselves.

I found it quite a task to select the prize-winners this month and even more difficult to differentiate between them. In the end my decision was largely based on the tone values. These are very dainty in the first prize portrait — in fact, it is almost impossible in the original to find any portion that is not full of fine gradation. Last month I took occasion to speak of the scale of tones, pointing out that these could range from pure white to perfect black, also that it was wisdom for the photographer to restrict himself in selecting the values he might use. In other words, the photographer who endeavors to run from white to black in any one portrait is setting himself a much more difficult task than the one who uses, say, only one-third of the scale. For instance, in the so-called cameo effects only the light end of the scale is used, and we all know how pleasing they are. And so in the same way it is wisdom with many subjects to have neither a pure white nor pure black. The so-called impressionists are apt to use only the dark end of the scale, hence the name often applied to them — mud.

Now in the prize picture there is not a pure white or a tint within a few degrees of it, but from the highest light there are all gradations right into pure black. I would draw special attention to the background, which at first glance looks one even tint, but which is really full of delicate, subtle tones, suggesting distance behind the figure. I need scarcely point out how, by being of a middle tone, it binds together the lights of the face and the darks of the drapery.

The second prize picture is in an even lower key, and so far as the face is concerned the modeling is very fine. To me the background is too dark, as is also the drapery, so the fine feeling for tone is not so beautifully carried out as in the face of the subject. I like both pose and arrangement.

The third prize picture is by the winner of the similar prize last month. He is here attempting the scheme of lighting advocated by my old friend, James Inglis, and so when Mr. Inglis dropped into my office as I was selecting the prizes I placed the print in his hands. "Excellent everywhere, excepting on the shadow side of the face," was his comment, and I had placed the print in the third place for that very reason. It will be noticed that on the light side of the face the modeling is very good, but from the nose the effect is very flat on the shadow side. When Mr. Inglis was putting me through a course of sprouts he was always protesting against the "board-like" effect I so often got on the shadow side, pointing out three things I must always keep in mind. First, the shadow on the dark side of the nose should "round" over, not be sharp on the edge; second, the shadow cast by the nose should not meet the one on the cheek; third, the catch lights in the eyes should correspond. The reader will notice that all these points have been neglected in this portrait, particularly that a very peculiar effect is produced by the catch lights in the eyes being on different parts of the ball.

HONORABLE MENTION.

Jukes.— Head and hand capital, but camera was too high, bringing in far away arm where it has no business to be. Try the effect of leaving this arm out entirely.

Barry.—A strong face naturally, but a scheme of delicate grays is not appropriate. Try more decided contrasts in lighting on such a face.

Perkins.—A fine sample of good, salable, ordinary work. As a technician you are first-rate. Now try to add some pictorial quality.

Ward.— Excellent technical qualities, but that is all I can see.

F. Dundas Todd.

RULES.

1. Only one print to be submitted in any one month, and this must be from a negative made in the ordinary course of business, within sixty days of the date it was mailed.

2. The pictures will be judged on the first day of each month, and all prints received prior to that date will be included.

3. Requests for private criticism, accompanied by a fee of $1, may be sent along with the print and will be answered after the judging is over.

4. Mark outside of package with the words "Portrait Competition."

5. Prints are not returnable.

SECOND PRIZE.

A FEDERATION OF AMERICAN PHOTOGRAPHIC SOCIETIES.

FOR EXHIBITION OF PICTURES AND EDUCATION IN PHOTOGRAPHIC ART.

At the call of the Metropolitan Camera Club of New York, representatives of the principal photographic societies of the country met in the large assembly room of the Metropolitan Club, 102-104 West One Hundred and First street, on June 28. Plans for the federation were conceived and executed by Mr. Curtis Bell, president of the local club and one of the leading art photographers.

Representatives were sent by the Boston, Washington, Toronto, Philadelphia, Chicago, New York and Brooklyn societies and also the Salon Club of America, which is devoted to pictorial photography, with members scattered all over the United States.

Mr. Bell called attention to the present difficulties and expenses connected with holding Salon and other exhibitions of pictorial photographs and showed that by organization and unity of purpose far more could be accomplished than by individual efforts of the several clubs and with far less expense.

Among other plans proposed was the holding of an annual photographic Salon of the very highest class, the pictures to be judged by the most distinguished artists of the country and the selected work to be forwarded, in turn, to all societies in the federation. As this collection of pictorial photographic work can not be shown in more than a dozen large cities during the season, the number of societies to be admitted to Salon membership was limited to twelve.

In addition to this, for the education of people in other cities, interested in this great photographic movement, a smaller but very select exhibition was proposed, to be prepared quarterly and forwarded, in turn, to the societies which shall be known as exhibition members.

Interchange of members' privileges was proposed and also a historical department for preserving photographs of interesting landmarks, old buildings, quaint local costumes, etc., the results of the year's work in that department to be filed in some institution of national importance, as for instance, the Smithsonian Institution at Washington.

All these subjects were fully discussed, and it was unanimously agreed that the objects of the proposed federation were worthy of the best efforts of all photographic societies, those represented assenting to the plan in its entirety.

Among the delegates were: Charles E. Fairman, of the Capital Camera Club, Washington, D. C.; F. Dundas Todd, of the Chicago Camera Club; John H. Thurston, of the Boston Camera Club; F. C. Beach, of the Toronto Camera Club; Messrs. Walter Zimmerman, Adolph Petzold, of Philadelphia, and Wendell G. Corthell, of Boston, representatives of the Salon Club of America; Dr. J. G. Miller and Daniel Baker, of the Columbia Photographic Society of Philadelphia, and Messrs. Curtis Bell, S. C. Bellenkamp and Dr. W. J. Furness, of the Metropolitan Camera Club of New York city, and William T. Knox, of the Brooklyn Camera Club.

It is expected that a considerable number of other photographic societies will join in this important work as soon as it becomes known, and, in fact, a number of applications from societies not represented were submitted at the meeting.

It was decided to name the new organization The American Federation of Photographic Societies. After the adoption of a constitution the following officers were elected for the ensuing year: Curtis Bell, New York, president; Walter Zimmerman, Philadelphia, first vice-president; Charles E. Fairman, Washington, second vice-president; F. Dundas Todd, Chicago, third vice-president; S. C. Bullenkamp, New York, secretary; John H. Thurston, Boston, treasurer; Rudolph Eickemeyer, Jr., New York, salon director; Daniel Baker, Philadelphia, historian; F. C. Beach, Toronto, chairman salon committee.

The Royal Photographic Society of Great Britain announces that its forty-ninth annual exhibition will be held from September 22 to October 29, 1904, at the New Gallery, 121 Regent street, London, England. For further particulars address the secretary, A. W. W. Bartlett, 66 Russell square, London, W. C.

THE FUTURE OF PHOTOGRAPHY FOR EMPLOYES.

Those of our readers who make it a rule to look through the "Answers to Correspondents" column week by week must frequently have been struck with some of the inquiries we have to reply to. A very frequent one of late has been as to our opinion of the merits of somebody's work as an operator or as a retoucher, and what salary he should command as an employe in either capacity. Sometimes the examples of work sent, possibly picked specimens, have been tolerably good, at others just the reverse, and they serve to illustrate that the sender has no idea whatever of what is required from a good craftsman, either

Chas. E. Fairman, W. J. Furness, F. C. Beach, W. T. Knox. Curtis Bell, S. C. Bullenkamp,
Walter Zimmerman, J. H. Thurston, Dr. J. G. Miller, Daniel Baker, Adolph Petzold.

DELEGATES AT FIRST CONVENTION AMERICAN FEDERATION OF PHOTOGRAPHIC SOCIETIES.

as an operator or retoucher, or the two combined. Many of the former's specimens, though they may be good, clean photographs, show that their producer has but little knowledge of lighting the sitter, and far less of posing him or her; indeed, some of the poses have often been of a most inartistic character. The same may be said with regard to some of the examples of retouching we have received, as they show that the senders have no idea of drawing or the anatomy of the face. The notion seems to be, in the majority of cases, to work out every line of the face and make it appear as smooth and even as the wax-figures one sees in hairdressers' shop windows. In some cases the likeness has been almost entirely destroyed through the total obliteration of the most striking features of the model, the face being rendered flat and inanimate to a degree.

It is evident from a very large number of the specimens we have received that the senders have quite mistaken their vocations, as they clearly imagine their work to be good, or, at least, sufficiently so to obtain them employment — and so it may, of a kind. It is this sort of thing that has brought about the overstocking of the labor market with mediocre workers, who are frequently glad to obtain employment at a wage even below that of an ordinary unskilled day laborer. At the present time, when plates are bought ready for exposure in the camera, there is really very little for an operator to learn before he can produce a good and clean negative.

The chief skill now required is in the lighting and posing of the sitters, and being able to deal with them with tact and in a gentlemanly manner, so as to secure portraits of a refined and artistic character. These qualifications do not seem to be recognized by a large proportion of the candidates for appointments as operators. Many seem to surmise that if they can produce a clean negative, that is all that is necessary to secure them employment. It is perfectly true that the highest class operators — even in the best studios — do not get the same high salaries that used to be paid in the wet collodion days. But four or five guineas, and upward, a week are still paid; but then, it is only to gentlemen of good education and with exceptional artistic ability. It is obvious that these qualifications are quite overlooked by some that think they are really good operators. An operator who may suit quite well for a studio of the "three for half-a-crown" type would be quite out of place in a high-class one where the sitters are mostly of the aristocracy.

In the above we have only been considering the male portion of photographic labor. But at the present time much of the work that used to be done by males is now done by females, and that does not improve the position of the former. A very large proportion — indeed, by far the larger proportion — of the printing and toning, as well as retouching, is now done by females, and it may be at once admitted that this work can be as well done by them as by males. But with them the outlook for the future is by no means bright. It has, for some years past, been a custom with very many to take girls as apprentices, with or without premiums, for three years, to learn printing, mounting, spotting, reception-room duties, etc., paying them quite a nominal wage, or none at all. After three or four months the apprentice, if fairly intelligent, becomes, with ready sensitized papers, able to do the work as well as those with long experience, and also to retouch negatives fairly well, if they have good tuition. She then becomes a valuable hand for the end of the term, and receives but quite a nominal sum for her services. Before she is out of her time — perhaps six months — another apprentice is taken on to learn the business, and she in due course takes the place of the former one, who then has to seek a situation elsewhere, and finds that it is by no means so easy a matter in the already overstocked market as she or her friends were at first led to imagine, as witness the number of advertisements in "Situations Wanted" that appear weekly in our columns.

The advertisements of "Situations Wanted" and "Situations Vacant" are always a good criterion of the existing state of the labor market. There is very little question that the present state of competition, with cutting prices, has been brought about by gelatin photography. It has tempted so many to become amateur photographers. As such they are able to purchase their plates and papers at about the same price as the professional, and they think, from the prices the latter — particularly those of the higher class — charge for their work, that photography must be a highly remunerative business, quite without taking into consideration anything beyond the mere cost of material. Hence they drift into professionals with very little ability as such, and, consequently, frequently adopt cutting prices. Some parents, thinking of the supposed profits of photography, article their sons for a term to some who almost make a trade of taking "articled pupils" with a very substantial premium: but what are the youth's prospects when he has served his term?

The object of this article is to point out to young people and their parents that at the present time photography, as an employment, is by no means so lucrative as many seem to imagine, and there seems to be but little prospect of its being better in the future. We therefore suggest that they should not enter the ranks of professional photography without giving due consideration to the matter.— *The British Journal of Photography.*

DON'T FORGET

That the National Convention will be held in St. Louis October 3 to 8, inclusive, at the Forest Park University Hotel. DON'T FORGET the fact that we have reserved the hotel for that week, but it will be necessary for you to send your dues to F. R. Barrows, treasurer, 1873 Dorchester avenue, Boston, who will send you voucher which you will send to the manager of the hotel and he will make reservation for you, which will be the only way you can secure accommodations. DON'T FORGET your exhibit; if it is not now ready, get to work on it. We want you represented, and October is not so very far away. Don't put it off until the last moment. We anticipate for you a week of pleasure and profit. DON'T FORGET we are going to make this the banner convention of the Association, and, lastly, DON'T FORGET to be there; we want you.

Fraternally yours,
C. J. VAN DEVENTER.

TECHNICAL IDEALS.

Technical perfection is often glibly talked about, but not always with discrimination. On one or two occasions I have myself referred to it, with the result that I have many times since been represented as having said what I did not say, and what I certainly never had in my mind to say.

Perfection in human work is not always, if it is ever, a fixed quantity, but is to a certain extent a matter of opinion. Of course there are certain common details concerning which all are agreed. A technically perfect negative or lantern slide must be free from spots, blotches or stain, and evidences of uneven development. A technically perfect print on paper must be free from unsightly variations of color, evidence of accidental over or under exposure and all effects that would at once be classed by universal consent as faults. But this is only the beginning of technical excellence in photography.

There are matters that are still often considered essential for the attainment of technical perfection. Juicy or velvety blacks in prints, brilliancy in negatives, boldness or richness in either negatives or prints, a little bit of "clear glass," the "bloom" of wet-plate negatives and all such qualities of photographs are not the elements of perfection. In particular cases they may be desirable, while in others they may be faults. The old ideas that a landscape or building to be photographed at its best must have the sun shining on it from a point behind the camera and a little to one side or the other, that the morning light is better than the afternoon light, and all such conventional notions are of the same kind; and as they tend to narrowness rather than freedom, to mechanical sameness rather than intelligent and expressive variety, they positively hinder the progress toward technical perfection.

A negative is a tool made for the production of a print. The perfection of a tool is judged of by the manner in which it fulfils its function. But the work done by a faulty tool may be perfect by reason of the skill of the worker, so that a good result is not in itself proof of the goodness of the tool used. A perfect tool may need skill in the using of it, but it will serve its purpose well and will not have to be "made to do."

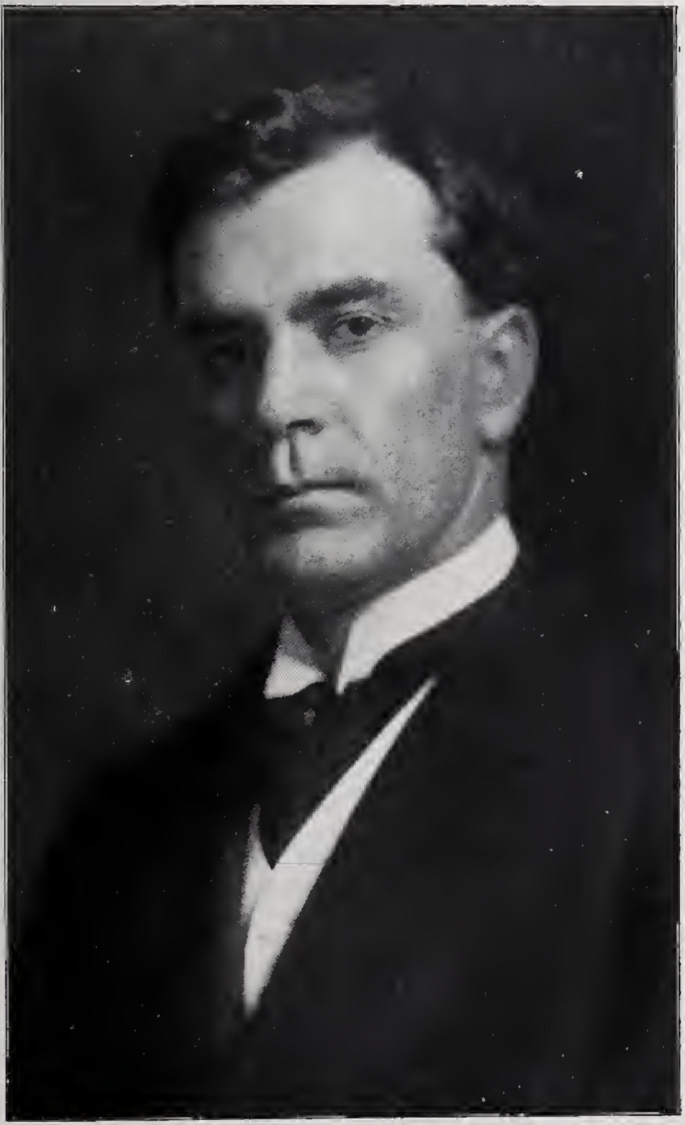
A negative can not be described as technically perfect unless the use for which it is intended is known, as it may serve well for one purpose and be useless for another. It may, for example, be perfect for enlarging from, but useless for direct printing. I think that the nearest approach to a definition of a technically perfect negative is — the negative produced by a perfect technician. It remains then to define the perfect technician. I should describe him, so far as the production of negatives is concerned, as the photographer who can with certainty produce a negative that will give a preconceived print by a predetermined process. Of course the perfect technician does not nor ever will exist; he is the ideal worker that we strive to approach.

There are many who will consider that a certain character of gradation and a certain degree of sharpness, or it may be a certain differentiation of sharpness of definition ought to have something to do with the definition of a technically perfect negative. But these matters must be allowed to have to do with the pictorial rather than the technical details. Artists may differ as to the kind of definition and gradation that they desire, but the perfect technician is he who has so thorough a control over his appliances that he can with certainty produce whatever he wants. He may be devoid of artistic feeling, and care nothing for pictures, yet he may be able to produce at will the sharpest or the most diffuse definition, the fullest or the most meager range of gradation, to emphasize the detail in the high lights or in the deep shadows, and, in short, to produce any possible variation at will.

There is little need to point out the desirability of technically good work. A fine idea is much more likely to be appreciated when it is perfectly expressed. The grandest orator who has nothing to say is truly tedious, but who will attend to the greatest thinker if he only mumbles unintelligible sentences? To imagine that technical perfection is in any way opposed to pictorial excellence in photography is absurd — the one is the ideal and the other its expression.

Technical perfection being the result of perfect control over the means employed, the means must be of such a nature that they permit of being controlled, or technical perfection can not result except indeed by a mere fluke, the possibility of which is not worth consideration. Many years ago I said that a perfect negative, as developed, must consist of pure silver in clean gelatin, because if there is anything besides these it is not controllable. Developer stains can not be controlled either as to their color, their distribution, their quantity, nor the effect they will have in the printing process. If present, therefore, the negative can not be technically perfect, even though when removed the resulting print may be inferior. Ammonia as an alkali in development is uncertain because of its volatility, and also because it is a solvent of silver salts. It may be possible to attain great skill in its use just as it is possible to get very decent music by the incorrect manipulation of instruments. But the practice is better devoted to methods that may take longer to learn but give greater possibilities.

As I am not seeking here to indicate specific procedures that make technical excellence possible, the two examples of the principle that should guide the photographer in his selection of methods will suffice as illustrations. If technical ability were more common, we should hear less of the manipulation of the print after its production. I do not wish to suggest that the popularity of the chromated gum method of printing is the immediate result of technical impotence — I believe that in some cases it is distinctly not so — but I should like to suggest that every one who uses it or follows practices analogous to those associated with it, should ask himself, and endeavor to honestly answer the question, whether he does not use it as a cloak to cover his photographic sins and shortcomings — whether he is not like a would-be musician trying to play music before he has learned to play his scales. And it *is* possible to "learn" pieces of music and to perform them creditably, without any knowledge of music or of the instrument employed.— *The Amateur Photographer.*



THIRD PRIZE.

St. Louis, Mo., July 30, 1904.
Mr. F. Dundas Todd, Editor of Photo-Beacon, *Chicago, Ill.:*

Dear Sir,— We wish that you would mention in your next issue the fact that we have the concession for the rental of Kodaks in World's Fair grounds. Visitors can rent Eastman Kodaks, any size up to 4 by 5, at reasonable rates by the day and thus be saved the trouble of bringing a Kodak.

We are located in the Official Photographer's building, on the Plaza St. Louis, near the east entrance to the Pike.

This information will interest many of your readers and the publication of the same will greatly oblige.

Yours very truly,
H. A. Hyatt.

Fremont, Ohio, April 10, 1904.
F. Dundas Todd:

My Dear Sir,— I have read with pleasure and amusement also your article in April number, "What is an Editor?" You are right; give it to us hot and heavy, "straight from the shoulder." How, I would like to know, can any one improve unless we have criticism on our work and a variety for comparison. No two eyes see the same lines of beauty, perhaps in the same object, but do we not see additional beauty if it is pointed out? I think so. Too many in this world have not read Charles Read's "Put Yourself in His Place," or if they have do not try to practice it. I think it a good plan and of benefit to look through others' eyes. Kindly excuse this, but I felt as though you should know that one subscriber at least had no kick to make.

Yours truly,
E. Stanley Thomas.

Plate-box lids often fit so tightly that the corners of the lids get cracked in the endeavor to open the box, and thus render the box no longer light tight. To remedy this, cut two semicircular pieces out of the box lid, one on each side, to admit the thumb and forefinger of the left hand.

KALLITYPE AGAIN.

When Kallitype was invented the method of working was very different from that which obtains at the present time, the idea being to coat paper with ferric oxalate, print under a negative and develop the resulting faintly defined image with a solution of silver nitrate. It would seem that this mode of working fell short of complete success, for it was eventually abandoned for that now in use, when the iron, salt and the silver are combined and the provisional image developed with rochelle salts or borax, and sometimes the two are combined.

It would seem at this time when we look back on the tinkering that has been necessary to bring the success we now see, that the formula as first given to the craft must have been very imperfect indeed, for it is only of late, if I am not mistaken, that the rusty shadows which were often in evidence have been eliminated, and the process thus shorn of the greatest element of weakness pertaining thereto.

I had been something of a dabbler in the process when the desire took possession of me to go back to first principles — to see for myself what sort of result the man who invented the process could have had, and the prints I got from it did not suit me at all. The image was of an inky blue, good enough so far as it went, but lacking vigor. I added something I thought would supply the deficiency, only to get *too* much contrast, and then began a series of experiments which taught one something, and eventually led to complete success. There is not the slightest difficulty in securing the most intense black. Were the idea one to make plans similar to that for architects, from a negative, the success would been decided and immediate; but a negative is presumed to have delicate gradation which should appear in the print, and the successful printing paper must be a means to that end or be pronounced worthless. So it took a considerable time on my part to get good gradation and at the same time a vigorous print in black and white.

Whether or not I have succeeded it is for others to judge. Having no desire to keep a good thing to myself, much as is the pleasure that is mine therefrom, I hope at this time to make plain the manner in which I get with a small expenditure of time, effort and expense, prints that are in every way as good as many of those produced by the platinum methods, and in jet black and white from the word go.

Copyright, 1902, by F. A. Thompson Minneapolis, Minn.

WAITING.

As this article is primarily intended for advanced workers, I will not here go into the details of quality of paper to employ and the like. It is presumed that this necessary knowledge is already acquired or is easy of access; so I will simply here give the formula and necessary operations to insure the best results, in which connection I would state that, in the hands of others having a more extended knowledge of chemistry than I possess, still better success may be expected. My formula for average pictorial purposes — negatives rather thin—is compounded as follows:

FORMULA NO. I.

Ferric oxalate, Merck	33 grains
Citrate of iron and ammonia	10 grains
Chlorid of copper	6 grains
Oxalate of potass	37 grains
Gum arabic	10 grains
Distilled water	1 ounce

Good linen paper is coated with this, printed under a negative, which will result in a fully defined image of a yellow color. The high lights alone remain untinged. If these are darkened the print is overdone and should be discarded, as there is no way of saving it. The print is immersed in the developer, which is made up as follows:

Silver nitrate	40 grains
Oxalic acid	10 grains
Citric acid	10 grains
Phosphate of soda	2 grains
Distilled water	1 ounce

This is a stock solution, of which take one dram to each ounce of water and place in a glass or porcelain tray. In this the print will develop immediately — as quick as velox — with an image of black and white. It may remain for a minute and should then be washed and cleared of the free silver remaining, in hypo of the strength of 20 grains to the ounce of water. In this, five minutes will be sufficient time to clear it, after which washing should continue for an hour to thoroughly eliminate the hypo. I realize that shorter washing is sometimes effectual, but it is better to be on the safe side. The formula here given should insure black prints; less oxalate of potass should tend to blue; more of it in the salting solution gives a brown cast to the image, as will also a full exposure and weak developer. With the latter the darker portions of the print will be brown, while the half-tones are black. When oxalate of potass is added the time of printing is shortened and not carried so far.

Formula No. 2 is for negatives a little more dense, or for use with heavily sized paper and where rough in texture. It should be understood that the rougher papers absorb sensitizer quickly, therefore for use with such dilution will be necessary. The No. 1 formula should never for this reason be employed on other than hard, smooth stock, and applied in a thin coating.

FORMULA NO. 2.

Ferric oxalate, Merck	30 grains
Citrate of iron and ammonia	6 grains
Chlorid of copper	6 grains
Oxalate of potass	30 grains
Gum arabic	10 grains
Distilled water	1 ounce

For negatives such as should be employed with carbon velox this formula will be found to give good results. In fact, I personally prefer it to the other, even though the image is less intense. The printing and development are precisely the same and the color ought to be a blue-black. The omission of the phosphate of soda in the developer will produce browner prints, as will also reducing the strength of the developer. By changes in the preparations of the sensitizer the results will differ. For example, more of the citrate and less of the oxalate of iron will tend to brown, while the addition of a few grains of oxalic acid will work a surprising change in intensity.

A very short exposure and brush development with full strength stock solution of silver nitrate will produce fine prints. The print should be pinned to a board and a brush charged with a small quantity of the solution drawn quickly across it on every part. The image will flash up fully developed in an instant. This is one advantage of the process, there being no tedious clearing baths, the whole operation of printing and development consuming but a few minutes on sunny days. A minute's time for development and another for clearing will do when in a hurry, but where prints are required for keeping purposes, from three to five minutes in the hypo is advisable. The only reason for clearing is to eliminate traces of silver that even prolonged washing fails to remove. With deep printing stronger hypo may be used.

Those who are expert in working the glycerin process may find in this method great possibilities. I have not myself experimented in that direction, but I can see nothing to prevent the silver being *brushed on* as is done in the platinotype with oxalate of potass. With ordinary manipulation the results, in so far as appearances go, are identical. The closeness of deposit in the fine particles of metal is noticeable in the one as in the other, the only difference being that in one the deposit is silver, while in the other it is platinum.

The addition of a few grains of bichlorid of mercury to the sensitizer will enable one to produce sepia tones.

The cheapness of this process presents us the means of having a supply of excellent printing media at a cost not much beyond blue print paper. Think what that means to those accustomed to platinum prices, and here are the same or similar results for a song. In fact, this very cheapness works as a detriment sometimes. With some people cheapness and simplicity of operation mean inferiority. The higher price you charge, the more they value the article. Let such people go their way. I have no desire to convert them; there are plenty to cater to their demands.

In using the developer it need not be thrown away until exhausted. Two ounces of diluted silver solution containing ten grains of the metal will develop at least a dozen 5 by 7 prints, and when less than this are developed, the remaining solution can be kept for future use. Before using the stock, bottle should *always be well shaken,* and when prints begin to look blue and less vigorous, diluted developer should be thrown away and a fresh lot substituted.

Be sure also, when coating, to shake up the bottle before using. The heavier particles — which are likely to be the ferric oxalate — are apt to settle on the bottom, and when weak blue prints keep coming along we puzzle our heads for the reason. Shake well before using is a legend as applicable in photographic operation as in medicine.

Jos. R. Iglick, Rochester, N. Y.

THIRD PRIZE.

The paper, I neglected to say, is quite sensitive, a few minutes' exposure in the sun being usually sufficient. Sometimes it is rather difficult to gauge the printing, especially with thin, flat negatives, with no white to speak of in the composition. When there is a white spot, such as is often present in the shape of a collar in a portrait, there are no difficulties in deciding when printed enough. The darker shadows will then be of a yellow color, while the half-tones are of a greenish hue, the whites remaining like the margins of the paper.

Paper should be as fresh as possible to secure the best results. It should never be older than a week unless protected in air-tight receptacles similar to those employed for platinum and with a preservative at the bottom. When kept exposed, paper quickly deteriorates and loses in sensitiveness.

With solutions at hand and a supply of properly sized paper to draw upon, it is the work of but a few minutes to coat what is needed from day to day.

Since writing the foregoing I have thought it well in the interest of complete success to add a few lines.

The short days of winter preclude much printing in the sun unless the paper be one that is extremely sensitive. Moreover, the paper I have here described may be easier to judge when printing by a slight change in sensitizers, which is as follows: To each ounce add 4 grains of oxalic acid or the same amount of oxalate of potass; then 4 drops of a solution of bichromate of potass, 4 grains to the ounce of water.

The printing time will thus be shortened and the print taken from the frame when the darkest shadows are visible and the half-tones are not. In a portrait, for instance, the outlines would be well defined, while the half-tones would not appear at all.

JAMES THOMSON.

HARSH CONTRASTS IN NEGATIVES.

Every one knows the brilliant, hard-looking negatives spoken of as the "soot and whitewash" specimens. What are we to do with these in order to get presentable prints? Are the results ever worth the trouble?

Certainly they are, and there are various ways of effecting the improvement. We may give the defective plate a soaking in a moderately strong bath of ammonium persulphate, and so reduce the dense shadows, but that is not always a good plan, because the resulting prints, without further treatment, are apt to be flat and muddy, with a considerable loss of tone and brightness.

The negatives are generally due to a too lavish use of strong developer and too little water, or they may arise from too large a quantity of bromid. We get intensely black high lights and clear glass in the shadows. If the contrasts are not excessive, the back of the negative should be coated with matt varnish — such a varnish as that in which gum sandarach is dissolved in methylated ether and gum mastic in benzole.

The negative should then be placed upon a retouching desk and the dense parts painted over carefully with a cold negative varnish. A further evening up of parts may be still got by going over the thin parts with a weak wash of water-color, such as prussian blue.

Ladewig, I think, suggested the use of bichromate of potash and alum:

Potassium bichromate.....	15 grains
Potash alum	70 grains
Hydrochloric acid	60 minims
Water to make up to......	4 ounces

Before immersing the negative in this reducing bath, it should be soaked well in soft water in order to soften the film, and after placing in the bath the negative should be allowed to remain till the film is whitened throughout by the formation of silver chlorid, then a good washing is required before redevelopment, which process may be accomplished by, perhaps best of all, a hydroquinon and metol agent. Moreover, this redevelopment may be done in daylight. The advantage lies in the fact that the thin parts of the negative get developed first, or at least absorb the reagent, and attain power quicker than the thick parts, and so we get a chance of control, and the developing can be checked at the right stage. After this the negative must be put into the hypo bath, and should be kept there until every possible trace of soluble silver is removed, or the permanence of the negative will not be insured.

It will easily be seen that should density not be sufficient after this, the negative can still be treated by any of the baths used for intensification.

This is a very useful method of saving sometimes an otherwise useless or very imperfect negative, and the results are worth the trouble if only carefully carried out.

"WAVERLEY."

COLORED DEVELOPERS IN PHOTOGRAPHY.

The aim of photography at present is the complete abolition of the darkroom. Any process which tends toward this end receives a ready welcome. The film user has for some time been independent of a darkroom in the loading as well as the development of his exposures, while plate photography has fallen somewhat into disuse with the amateur, on account of the necessity of a darkroom.

In the old days in photography, when ferrous oxalate was the only available developer, the operator soon learned he could turn on his white light even before development was completed. This was possible because of the non-actinic color of the developer resulting from its oxidation. Of course, the plates of those days were not in general as sensitive as those of to-day. This fact allowed such liberties to be taken with the developing light. In fact, even at the present time it is possible to develop by candle-light in a darkened room, placing the candle behind a shield at a distance from the sensitive plate, so that only faint diffused light shall strike the plate. It will be found most surprising what a mere trace of light is necessary in distinguishing the plates in such a room, when the eyes have accustomed themselves to the darkness.

About fifteen years ago a device was invented to facilitate loading of holders, and subsequent development of same in the daylight. The novelty of the process, from a chemical standpoint, was the developer. This was, according to the specifications of the patent, a combination of an ordinary developer with anilin orange. After the plate had been immersed in the colored developer, daylight could then be admitted and the development completed. The tray, which was of non-actinic character, had a cradle within so that the plate had a thickness of colored solution beneath it as well as above. Another of the claims calls for the employment ot any inorganic substance, which would render the developer "transparent yet non-actinic," just as in the previous case covering the use of "any analin solution." The curious flaw in this specification which calls for transparency in connection with non-actinic power is completely circumvented by the use of the same patentable materials in opaque form.

The painstaking labors of Messrs. Hunter and Driffield in England, supplemented by the practical experiments of Mr. Alfred Watkins, have developed

Mrs. J. C. Sheridan, Mishoppen, Pa.

the systems of "time development," or, as it is better named, the "factor method." In this process we time the commencement of development and then wait until the first detail is seen on the plates. We next multiply this period of time by the factor, and obtain the total length of development. The factor is found by experimenting and does not appreciably vary for time, exposure, concentration of developer, etc. Take a specific example, like ortof. This is rated at factor ten in the latest books on developers. If development started in 35 seconds, 10x35, or 350 seconds total development, will suffice. If it were extremely cold, the development might not start for 70 seconds, in which case our development would not be complete till 700 seconds had elapsed. The factors are estimated for normal printing qualities: denser negatives would increase the factor somewhat; for softer effects we would decrease it. The resulting negatives on the factor system show the best gradations of tone which are possible from their respective exposures. Factor developing cannot, therefore, remedy a fault in exposure; it can, however, indicate the best negative from such an exposure.

The following colored developer was recommended several years ago. To each pint of hydroquinone developer add quantity sufficient of this solution:

Water	24 parts
Alcohol	24 parts
Aurantia	16 parts
Carmine	8 parts

The solution should be filtered. Use enough to make liquid nearly opaque and develop by the factor method. It is quite easy to note the first appearance of image even though the solution is nearly opaque.

Other dyestuffs have been employed, such as xylidene scarlet, rosolic acid, etc. The latter has been recently suggested in connection with phenol-phthalein. It must not be supposed, however, that all non-actinic dye solutions are suitable, as many of them are decomposed or precipitated by the carbonate of sulphite in the developer.

Mr. Howard Farmer, whose name is connected with our best known reducer for removing excessive density on plates, gave to the world a process of developing which is far superior to any concoction of dyestuffs for the same purpose. Mr. Farmer, in 1898, before the British Royal Photographic Society, combined his developer with "caramel," or as it is otherwise called, "burnt sugar." Development with such a mixture could be carried on in close proximity to a light, as the caramel was practically opaque to the rays.

The writer has experimented in great detail with the caramel mixture and no difficulty is experienced in development even on a brightly lighted window ledge. The economy of the process is very great; the caramel resulting from four ounces of sugar will color five hundred ounces of developer with ease. Caramel is made by mixing four parts of best powdered sugar with one of water, and gradually heating in an extremely large agateware vessel till 380° is reached; 400° must not be exceeded. Stir it constantly till it thickens and shows an inclination to solidify. It is now poured on a cold stone slab to cool. Why we use a large vessel is because of the frothing that takes place toward the end of the process.

By bringing the plate toward the surface in the caramel developer, the details of development can be observed. It was soon discovered that we could do this with considerable carelessness. The plates were evidently desensitized in some way. Whether this is by action of caramel or by fact of their being completely wet is not positive. Probably the latter is the fact. A rough experiment the writer made some years ago points that way. Plates were exposed to a darkroom ruby lamp, one wet and the other dry. The two were developed in the dark after the dried one had been wetted a corresponding time in the dark. The plate exposed dry was fogged seriously.

It is possible to judge a plate from the surface as easily as by looking through it, providing one has sufficient practice. The writer has personally combined caramel with metol, hydroquinone, eikonogen, paramidophenol, etc. The caramel makes with the developer a deep ruby solution, and an eight-ounce bottle filled with it is perfectly opaque. Only one objection can be urged against caramel, and that is its low solubility. The developer when made with hot water dissolves quickly enough, but it is wise to filter it before use, as particles settling on the plates would hinder the development and make white spots on the negative.

The advantages of caramel over aniline dyestuffs are manifold. Caramel does not stain the gelatin and, therefore, does not need to have this stain discharged later. It does not color the fingers in the least and is harmless to the skin. The desensitizing action is remarkable and the writer is not aware that even Mr. Farmer himself notes the ease with which results may be examined in light. If caramel is not convenient to make, the neighboring druggist will make a solution from the molasses-like caramel syrup found in the trade.

Mr. Farmer gives also an alternative method of developing. He utilized the non-actinic power of an oxidized developer. Pyro was the developer chosen, and it was partially oxidized by using 120 minims of a ten per cent solution of uranium nitrate to each four ounces of developer. The resulting solution cuts off 99.9 per cent of the actinic light. It is, however, not in the same condition as a used developer, because such developers have become impregnated with bromid from the plates. Advanced workers know that the character of the gradations of a plate differs when an old developer is used in place of a new one. Something is necessary to take care of the bromids as soon as they are liberated.

While working with paramidophenol the writer noticed the strong blue fluorescence which developed as it grew old. The thought occurred to try a fluorescent body in connection with the developer, if such a combination was not incompatible. It was found that fluorescein, perhaps the strongest fluorescent body known, would readily combine with the developers. Moreover, the developers being strongly alkaline brought out the fluorescence in full strength. The results were disappointing, however, and the plates eventually fogged.

Fluorescence, as we now understand it, is an emission of light from a substance under the excitation of light. We consider that fluorescence in liquids results from the property of that liquid

Mrs. W. W. Bosanko, Central City, Colo.

to dampen the vibrations of light and emit them as slower ones. The light which excites fluorescein is the invisible ultra-violet, which is also the most active in fogging the plates. In fluorescein this invisible light is changed to brilliant green, and a little thought shows that this green light could easily pass the yellow layer of fluorescein developer and damage the plate beneath.

A red dyestuff was found with a strong orange fluorescence, but could not be identified chemically. Results were then much better, as might be expected. The combination of caramel, fluorescein and paramidophenol was the next step, and the best results came here. The ultra-violet rays were reduced by fluorescein to green, and the ruby caramel solution, which was not entirely proof against ultra-violet, could, however, take care of the green rays. The mixture is non-staining, like the straight caramel mixture.

The ultimate object of these experiments is a developing agent which is non-actinic and non-staining in its solution, and, therefore, capable of being used so that examination is possible through it. This should combine with the non-actinic color a dull red or orange fluorescence. We could then use a large volume of transmitted light without danger of fogging as in the previous mentioned orange dyestuff.

A colorless non-actinic liquid may be a possibility of the future. Several such mixtures are known in Germany to be employed in making cells to filter light so that it may be used in lighting a darkroom. The cells are filled with nickel chlorid 3 parts and cobalt chlorid 1 part. The green nickel and rose cobalt solutions neutralize one another, and a fluorescent layer of quinine sulphate in collodion on the outer glass of the filter takes care of the ultra-violet rays. May we not find a way of combining a reducing agent with such a mixture and form a colorless non-actinic developer, in which the plate can be examined easily?

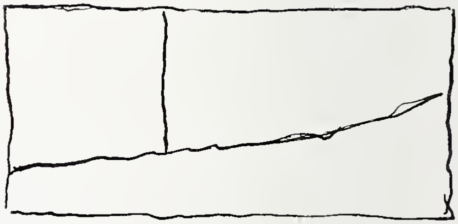
With these developers before mentioned, the unloading of plate holders is done either by a temporary journey to darkroom or by a large black cloth laid over the tray and hands while unloading. Once in the developer, the cloth is removed. An unloading device is needed to replace clumsy methods suggested above.

Chester T. Stiles.

ON FILLING A SPACE.

Most amateur photographers do not realize how much composition has to do with the successful picture. By successful I mean the one which is pleasing to the eye, in which there are no conflicting notes to distract the attention of the viewer. That they do not appreciate this fact is evidenced by the innumerable prints one sees, in which not even the primary injunction is heeded, i.e., to keep the principal interest and the horizon line away from the center of the print. Moreover, one often hears the advice, "Trim, trim; do not be afraid to trim your prints." Translated this resolves itself into a mandate which could as well be worded, "Compose, compose; compose with your shears."

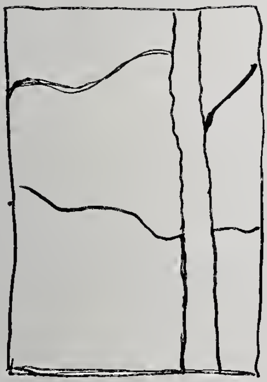
FIG I



And the kernel of all this is, that he who cannot compose on the ground glass can not compose with shears. While the shears may be the means of saving an otherwise hopeless thing, by cutting away the superfluous and inharmonious, it is obvious that the better way (the more economical way to say the least) is to do your rejecting before the plate has been exposed.

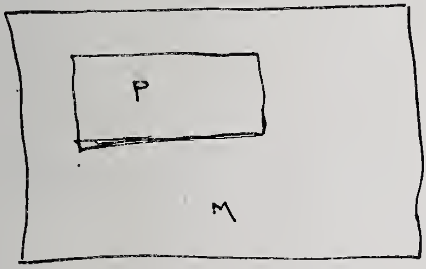
I saw not long ago, in one of the magazines, a statement that the photography of still life was the easiest of all the various branches of the art, and that the beginner ought to try his hand at this before essaying the more difficult work of out-of-doors. I heartily agree with the writer of that article, in that the beginner will do well to try still life first, but to his assertion concerning the ease of the subject I must append reservations. From the chemical and mechanical side no doubt this latter assertion is also true, for the subject can not move, and the light can be controlled, and when one correct exposure has been made, succeeding ones can be gauged by it very readily. For the rest, I maintain that he who can arrange a pleasing still life is capable also of other works.

FIG II



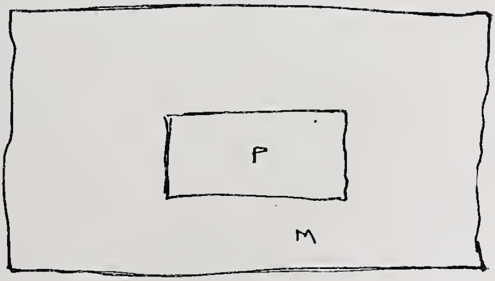
But in no branch of the art is a knowledge of composition, or feeling for it, so necessary as in the arrangement of a given number of elements to form a pleasing group. Again, in no phase of the art can this knowledge of composition be so quickly acquired as by a persistent study of this branch: because the reason of the discord, that which causes the feeling of unrest — the feeling which is so evident in the ill-composed picture — is much more apparent in a picture of this class than in the view chosen from nature, or in that still more subtle thing, "the portrait."

FIG III



The conception with which one should begin is that the given area must be subdivided into a certain number of spaces, having variety in form, and arranged in such a way that the result is pleasing to the eye. Innumerable combinations may be worked out, but it is well to adhere to these two well-defined rules: first, have the space or spaces along the base larger that those which are superimposed on them (have a sort of solid foundation as it were); second, avoid having any important lines through the center of the picture — for such lines divide the interest and you will have in that case two pictures in one. The Figs. 1 and 2 illustrate in a crude way the argument of this paragraph. Keeping these definitions in mind, by reference to Figs. 3 and 4 it can readily be perceived that they apply also to the mounting of prints and that print P on mount M in Fig. 3 gives a much more pleasing effect than in Fig. 4, where it is mounted exactly in the center.

FIG IV

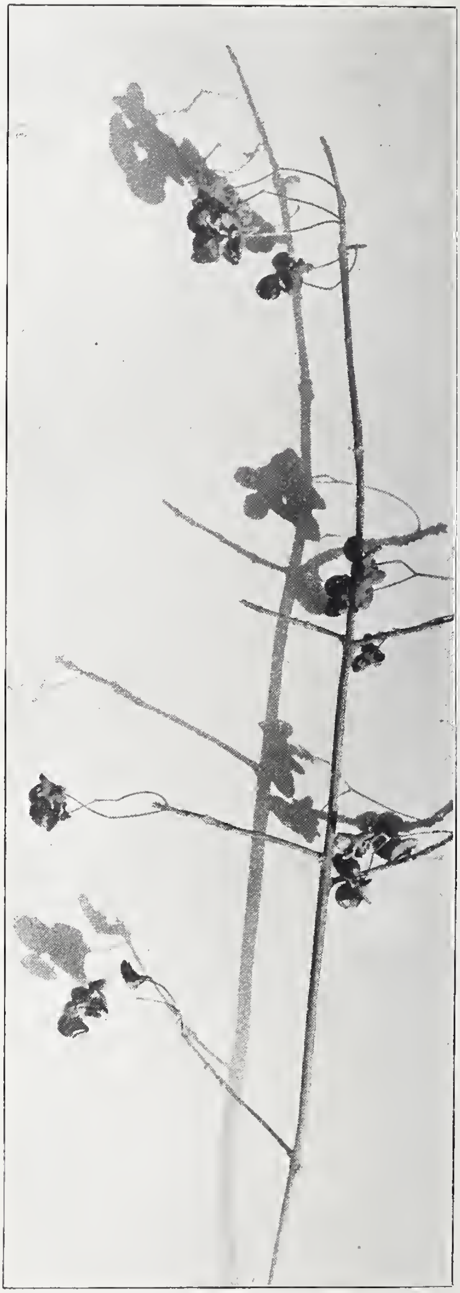


With these broad rules to build on in respect to spacing, we have next to consider the massing of light and shade. Perhaps it will be enough to say that it must be remembered that the extremes of the light scale, pure white and solid black, are the strongest and must be used most judiciously, and very limitedly, to accentuate the supreme interest by leading the eye directly to it, especially in landscape and portraiture.

In presenting three examples of this class of work, I wish to call attention first to the branch with its winter berries, because of the unique shadow effect. This was secured by tacking the end of the branch, which was quite a little longer than the portion shown in the print, to a small box (a box just large enough to counteract leverage of the extended branch). By moving the box the branch could be placed close to or away from the background, parallel to it or at an angle, and the shadow made to fall in a number of different ways.

The blossoms of the dogwood and their snow-white involucres make pleasing subjects to try on in the flower time, for they retain their freshness quite a long while after being taken from water. Broadly speaking, the space of this print may be said to be divided into three parts. The largest and also heaviest part is made up by the spray complete and is of the shape of an isosceles triangle or pyramidal. Its weakest point lies in the fact that the apex is almost in the line bisecting the picture vertically, making the space in the upper right-hand corner weak. If the white flowers had been there instead of the darker cluster of leaves, the picture would have been much weaker. As it is I have often added balance to this print by penciling the title up in that corner. Note the relatively great importance of the high light, because the background is comparatively dark.

The third print is divided into spaces by the first flower and thorn on the stem, and as much so as if these were constructed to the edge. Again, while these (the flower and thorn) are opposite, the spaces are by no means regular or equal, for they are given the necessary variety by the crook in the stem at that point.



WINTER BERRIES.

When one comes to making landscape studies it is sometimes very difficult to decide just what to include and what to reject, when surveying the picture on the ground glass. The best rule in such a case is to get the prime interest above all and if necessary on the center of the plate and include as much on either side as your plate will allow, and when the print is made, use the trimming shears, for you can then easily determine what is superfluous to the picture by covering first the one part and then the other and judging the side or portion left uncovered by its composition. The print of the "Old Buttonball Tree" is an example of this class. I had it centered on the plate and afterward some material was trimmed from both edges and from the one side more than from the other.

Oscar Von Englen.

DOGWOOD.

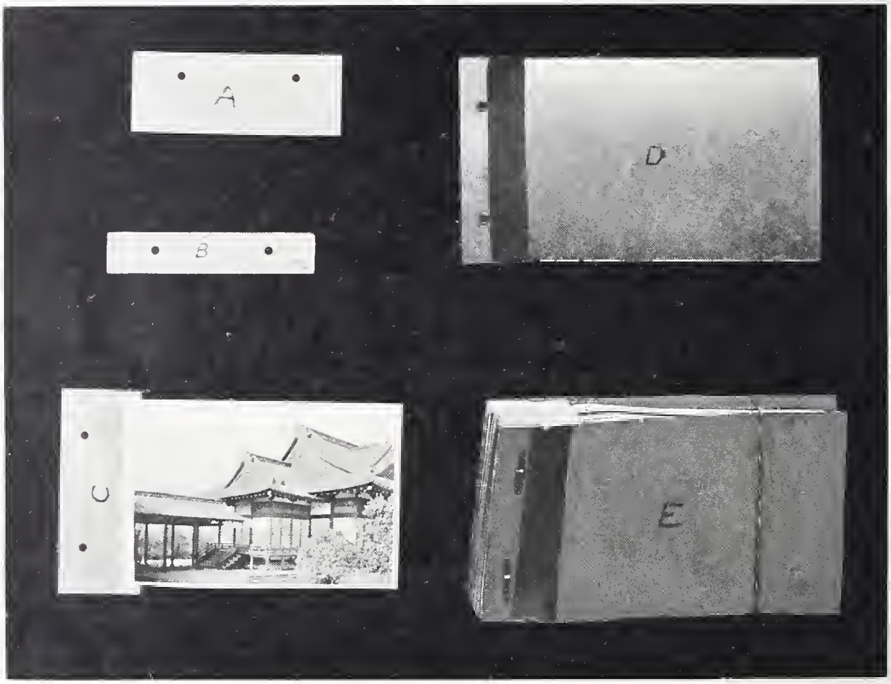
COLLOTYPE PRINTING FOR AMATEURS.

Amateurs are urged by the *Photo Revue* to give attention to collotype, a method of printing somewhat akin to lithography, but it gives the most complete range of gradation or half-tone. A surface of bichromated gelatin is exposed under a negative and then soaked in water. The exposed parts will now have been hardened by the action of light, and they will refuse to absorb water, while the unexposed parts absorb water freely. A roller charged with ordinary printing ink being now passed over the gelatin surface, the ink is rejected by the damp parts of the gelatin, but it adheres to the dry parts. If now a sheet of paper is pressed into contact with the inked collotype plate or sheet, the ink sets off on the paper and yields a print which, under the best conditions, is scarcely distinguishable from the best of direct photographs, and one collotype plate may yield several hundred prints before it is worn out. The following practical details are given: In 100 grams of water, 12 grams of gelatin and 1 of sugar are dissolved by a gentle heat, and vegetable parchment is floated on this, each sheet being allowed to remain on the gelatin solution for three or four minutes. These sheets are allowed to dry, and any required number may be prepared for keeping in stock. When required for use a gelatinized sheet is sensitized by being soaked in a four per cent bichromate solution and dried. The dry sheet is exposed under a negative, soaked first in water for a few minutes, then for an hour and a half in a mixture of glycerin 75 c.c., water 33 c.c., ammonia 3 c.c. The sheet is now stretched on a zinc plate and inked by means of a lithographic roller. An ordinary copying press may be used for printing.

Corks are also often very annoying in refusing to be drawn, the matter ending in the cork breaking across at the rim of the bottle neck. To secure a better grip, therefore, slice off small pieces from the top of the cork.

PRESERVING PRINTS.

Mr. Stevens' method of indexing negatives described in the January number of THE PHOTO-BEACON interested me, and his difficulty in keeping a complete set of prints recalled my troubles of the same kind, and the object of this article is to describe how I overcame them. I had cut a number of pieces of tough manila paper 2 by 5 inches (A) and 1 by 5 inches (B). The edges of the prints are pasted to the wide pieces (C) and a number bound between covers (D) using the pieces B for separators, and held by paper fasteners. The complete book is shown at E. The covers are made of press board with cloth hinges; eyelets are an improvement but not necessary. The holes both in covers and paper strips are made with the perforator in common use in offices. I use the sizes given for all prints up to 5 by 7 inches, but if smaller ones only are to be made, the strips may be shorter to suit, or longer if for longer prints.



The 2 by 5 inch pieces should be as thin as possible consistent with strength and the 1 by 5 inch pieces as thick as the paper on which the prints are made, or if this is not convenient, two or more may be used together.

The number of prints in one volume is limited only by convenience and length of fasteners; I have about one hundred and fifty in one set. Mine are arranged numerically for easy reference, but they may be classified or rearranged at any time, and if a negative to which a number has been assigned should ever be destroyed, one of the two-inch strips or a larger piece could be put in the proper place with whatever memorandum is desired.

ALFRED L. FITCH.

IF the whites of bromid prints are found on completion to be yellow, the stain can be completely removed by immersing the print, after fixing and thorough washing, in a strong solution of tartaric acid, keeping it in the solution for an hour or more if necessary, and finally washing in clean water.

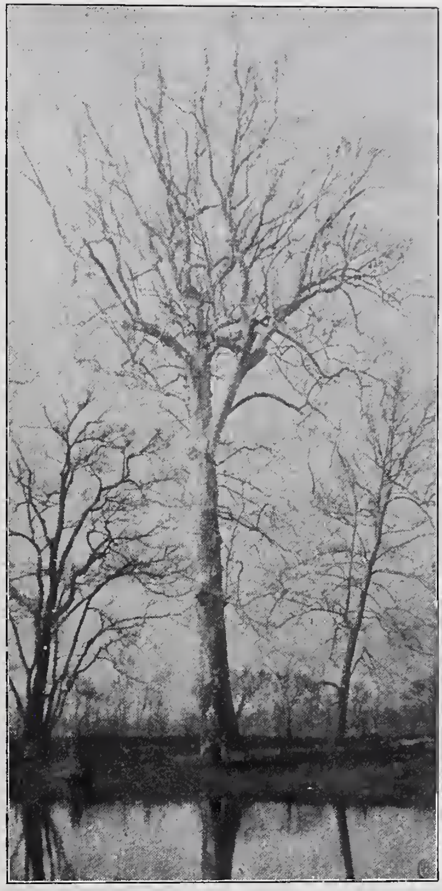
SOME FURTHER NOTES UPON MOUNTANTS, WET AND DRY.

Starch is by far the most widely used mountant at the present day, yet starch, it is well known, is anything but suitable for certain kinds of prints. Mountants can be divided into three kinds — watery, alcoholic and other solutions, and dry mountants. The two last-named are alone available, when, as often happens, the print may not be damped.

If starch is to be employed, it should be made by stirring together the necessary quantity of water and starch cold, and then gradually heating, stirring all the time, until the starch paste is ready. Gelatin improves not only the sticking but also the keeping qualities, and from five to ten per cent of a strong solution should be added. Of the other watery mountants, pure fish-glue, says our contemporary, *Das Atelier,* from which we quote, is to be recommended. It does not affect the permanency of the print, and is very easy and handy to use. It can be diluted with an equal quantity of water.

Our contemporary observes, somewhat sweepingly, that of the alcoholic mountants there is, generally speaking, not much good to be said. The mounting is not easy, and the sticking power is small; but, on the other hand, their waterproof qualities are an advantage. For instance, a P.O.P. print mounted with starch showed markings after a few days, whereas a similar print mounted with shellac showed no signs of such markings.

A good alcoholic mountant is made of shellac and mastic mixed in the proportions of four to one. Bleached shellac is pulverized, and so is the mastic, and one part of the mixture is dissolved in from two to three parts of strong alcohol. It must be put aside in a warm place to effect solution. After a few days the gums will have dissolved. For use, one part of this solution and two to three of strong alcohol are mixed. The print has to be quite dry. The back is brushed over with a shellac solution, and immediately put on the mount and allowed to dry.



THE OLD BUTTON-BALL TREE.

BEYOND OUR GRASP.

There are very few things in the world which can not be photographed, and the word "world" must be taken to include the recesses of the deepest mine as well as the attenuated atmosphere far above the sea-level, which is only known to the most daring of balloonists, and in a modified degree to mountain climbers. As for the more properly terrestrial things the camera pokes its nose, or rather its lens, into all the affairs of men, and whereas a few years ago it might be regarded by many only in the light of a fashionable toy, it now is to be found in every laboratory, ready on the instant to record things which are so rapid in their happening that no human eye is capable of detecting their movements.

Atmospheric phenomena of various

kinds have been photographed, and the modern study of meteorology is doubtless much helped by the beautiful pictures of cloudland which have been produced. They are necessarily beautiful, but their handsome looks do not recommend them to the man of science as much as the evidence they afford of direction of air currents, of altitude (when simultaneous pictures are taken from two separated stations for after comparison), and the opportunity they give of making a more reliable classification of appearances which are so ephemeral, that at the best they form a most difficult subject of study. Photographs of lightning are always attractive, and it is known to meteorologists that such pictures show peculiarities of form which were never seen before the camera was used as recorder. As to pictures of star-land, the photographic dry plate has, by the wonderful things it has achieved, caused quite a revolution in astronomy. One of the foremost workers in this splendid field of scientific work has stated his opinion that the wedding of the telescope with the photographic dry plate has helped astronomy as much as did the discovery of the telescope itself. Stars so inconceivably distant that no eye has ever seen them, even with the help of the most powerful instruments, have, by the cumulative action of their lights exerted over a period of some hours, recorded their presence on the dry plate, and it has been calculated that by the help of photography a map of the universe would be possible, showing about one hundred and sixty millions of orbs. A map, indeed, is now in progress, but by common consent among the observatories of the world, each of which will contribute to it, the mighty chart is to contain only two million of the brighter stars of the firmament.

It would seem, then, that the title of this article is a misnomer, and that there can be nothing beyond the grasp of the ubiquitous camera. There is no rule without its exception, and the exception in this case seems to be that beautiful appearance in the heavens known as the aurora borealis, or australis, according to whether it is seen from the Northern or Southern Polar regions of the earth. As far as we can gather, this beautiful thing has never been photographed, and we may regard it as an apparition, which, with our present appliances, can not be pictured by the camera.

The aurora borealis is very seldom seen in a latitude as low as that of London, and we can recall but two instances in which it was bright enough to excite general remark. The first was as long ago as October, 1870, when the sky seemed to be lighted up in patches of rosy light not only in the north, but all round the horizon. That the light given was pretty bright may be judged from the circumstance that the fire engines turned out from various districts. But it should be mentioned that possibly the electric alarms may have been caused to ring up the firemen by the automatic acting of the apparatus owing to the disturbance set up by the aurora itself. It is placed on record that in 1859, on two different dates, brilliant aurora borealis acted so powerfully on the electric telegraph in France and other countries, that for a time communication was altogether stopped. It will be remembered, too, that only a short time back induced currents from a magnetic storm played havoc with telegraphic messages over the greater part of Europe.

The other instance of an aurora seen in the metropolitan district occurred about five years ago, and we happened to observe it under exceptionally favorable circumstances from a boat on the upper Thames. This aurora was not quite unexpected, for some big sun-spots had been seen, and it is not uncommon for auroral phenomena to accompany such appearances. In this case it came, first as ghostly columns of white light in various parts of the sky, and soon afterward as a fan of rays in the north, through which the horses and wheels of King Charles's wain could be plainly seen, as through a diaphanous veil. Although in this case the light was, as we have said, perfectly white, and although the rays were strong enough to attract the attention of everybody, they were, we felt convinced, too faint for any record on a photographic plate, and they did not keep still. At one moment one of the rays would elongate, at another it would shrink, and attention was diverted from it to one of its fellows which, for the time, attained great prominence.

But if any one wishes to see auroræ at their best, he must betake himself to either the Arctic or Antarctic regions. Probably one extremity of the earth would be as good for this purpose as the other, but the quest of the north pole has been such a constant story of endeavor since the childhood of most of us, that the northern aurora has been more generally spoken of in our hearing, and it seems to be more within our reach than the southern one. The aurora borealis is generally pictured as a series of vertical curtains, with folds in them just like the crinkled paper of which table-lamp shades are made, and the most extravagant language has been employed to describe their brilliant coloring. But they have never been photographed, so far as we can learn, although many attempts have been made to picture them by the camera.

There is no doubt at all that there has been a good deal of exaggeration concerning the amount of light given out by the aurora, even when seen at its best. We have before us, as we write, a very interesting book by Sophus Tromholt, "Under the Rays of the Aurora Borealis" (1885), which gives a full account of the land of the Lapps, and which touches in a brief manner on this matter of photographing "the northern lights." The author says that the idea that this light in any way compensates for sunlight is a mere fable, and that it assists travelers in their journeyings is a gross exaggeration. It must be of unusual brilliancy to be seen at all when the moon is full, and the sky clear. Sometimes the aurora will give flashes of extra brightness, but these are so brief that "the light emitted is of no practical value whatever to the inhabitants of the polar regions." The author further intimates that the aurora at its best does not give a light equal to the full moon, and that on rare occasions he could read by its aid type about one-eighth of an inch high.

AN EXAMPLE OF SPACING.

But the most interesting part of his account of the aurora is his story of the attempts which he made to photograph it, which we will give in his own words:

"Every attempt I made to photograph the aurora borealis failed. The result was the same at the stations at Bossekop and Sodankylä. In spite of using the most sensitive dry plates, and exposing them from four to seven minutes, I did not succeed in obtaining even the very faintest trace of an image. The reason is, I am convinced, the small strength of light, and its limited chemical action."

Mr. Tromholt devotes a great many pages to a description of the aurora, and he speaks of masses of luminous matter suddenly appearing in the sky, wave-like motion, wave-like flaming, quick motion — all his expressions giving an idea of something in constant movement. And we are therefore led to believe from this description and also from what we have ourselves witnessed in a modified degree in this country, that the difficulty of photographing is caused by the unrest of the aurora rather than by its want of brightness. If the aurora would "keep still" as well as "look pleasant," to use the old studio formula, it could be photographed, provided the camera were connected with an astronomical clock movement so as to counteract the movement of the earth, and provided that a sufficient exposure were given. For we may surely assume that if invisible stars can be photographed, a thing which covers a far greater area and which gives enough light for the reading of type should also be photographable.

The light is comparable with that given by a Geissler tube through which an electric current is being projected by a coil, and such a tube we have been able to photograph by its own light in a room otherwise dark, by means of a few minutes' exposure of a rapid plate; and although the tube, by reason of its proximity to the camera, gives a much greater light than the aurora, we may look upon both as being of the same kind of luminosity; we may, indeed, regard the interior of an exhausted Geissler tube as being in the same state as the region above the atmosphere of the earth where the auroræ are believed to occur.

It is a matter of interest just now to turn to Sir W. Ramsay's recent explanation of the aurora borealis. We have lately heard, in connection with the wonders of radium, so much about those hypothetical particles of electrified matter called electrons, that they are becoming quite familiar. Sir W. Ramsay believes that the sun is sending out swarms of these particles and that, acting on krypton, the recently-discovered element, in our atmosphere, they produce the auroral light. This new view of the aurora is endorsed by Dr. Johnstone Stoney, who, in a letter to *Nature* points out that this action of the outpour of particles from the sun on krypton produces the green auroral line seen in the spectroscope. He further believes that this same outpour "presumably with equal, and perhaps increased, vigor, imparts energy to the molecules of helium, which range to still greater altitudes."

There is no reason to suppose that the most rapid plates now made are the most rapid possible. The difficulty of the plate-maker is not in the increase of rapidity, but in finding a safe light to work by. It is quite possible that in the future mechanical means will be contrived for making emulsion and coating plates and films in absolute darkness. We already have appliances for changing and developing under like conditions. With such supersensitive surfaces, a photographic image of the aurora borealis should not be impossible. — *British Journal of Photography.*

THE PHOTO-BEACON.

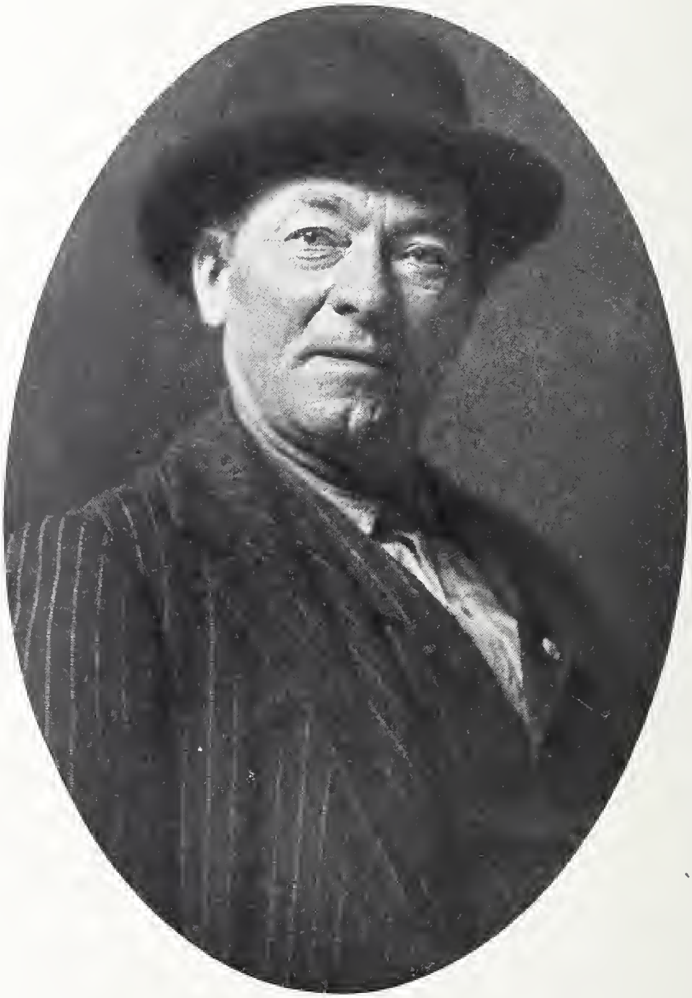
AN ILLUSTRATED PHOTOGRAPHIC JOURNAL

Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All communications relating to THE PHOTO-BEACON should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621 Broadway, New York.



FIRST PRIZE.

THE
PHOTO-BEACON.
EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 908 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XVI. SEPTEMBER, 1904. NO. 9.

PHOTOGRAPHERS' ASSOCIATION OF NORTH AMERICA.

The Secretary has had a busy time for the past month organizing details, getting ready all kinds of printed matter, sending out piles of literature, answering all kinds of inquiries, and attending to many visitors, each one of whom has a new idea to throw into the common heap. He, however, still lives, does his day's work as it comes along, and once in a while forgets all his troubles by following the devious path of a golf ball round the links.

Now that the proposition is before the fraternity in cold type I hear many comments. Practically all say it is a great plan, that will do lots of good if it can be carried out. That's encouraging, of course. Then hundreds sit back, feeling virtuous, and wait for the other fellows to do the chores and foot the bills, willing to get the benefits, but unwilling to work or to pay for them.

Having quite a long and varied experience with human beings, I expected to run up against just such kind of people, so I am not worrying much about them, but instead I am out after the fellow who is willing to work a little and pay a little to help along the business that makes his living for him, and who wants a better one.

Applications for membership are coming in right along, and as soon as I get through working out the details so that the machine may run smoothly, I will have interesting facts to report every month.

Now a word to those who are considering the advisability of joining. It has been reported to me from a dozen different sources that since the prospectus appeared there has been much discussion of the examination syllabus, and if I am correctly informed it has given quite a scare to the majority of photographers. I hope it has, because it will show them, and others, what every photographer really ought to know if he is to be considered a competent workman. But, frankly, I am amazed that so many men are afraid to face even the ordinary certificate which calls for only technical skill, which, after all, is a minor part of the photographic business.

More encouraging are the questions I receive about the qualifications for the honor certificates and what books I can recommend to help in the study. Already two employes are getting ready to fit themselves, and I have no doubt many others will soon follow.

Owners of galleries may have overlooked the fact that the Board of Examiners have provided them with an alternative method of gaining the honor certificates, as they feel it is too much to ask the average man of thirty-five and up to turn to book study. It is results that count after all, therefore the board will accept recognition of pictorial excellence by some authoritative non-professional body as being equal to an examination pass. For instance, any photographer whose pictures pass the jury of the Annual Salon of the Federation of American Photographic Societies will be entitled to an honor certificate. Other bodies will be recognized in the same way, if the status of the jury of selection be satisfactory to the Board of Examiners. Photographers desiring honor certificates had better cultivate the salon habit, that they may know just exactly what they can do. Incidentally I may remark, nobody ever knows the names of the rejected ones at such affairs, so here is a good chance for the average man to get an honest opinion of his work.

F. DUNDAS TODD.

THE KODAK IN WAR.

One of the most interesting articles we have read for a long time appears in *Collier's* for August 13, in which Robert L. Dunn gives a picturesque account of how he maneuvers and manipulates his kodak in the Russo-Japanese war. On every hand he is beset by obstacles, and the description of his strategy and tactics makes far better reading than those that describe the regular campaign. Since the military authorities object to kodaks, he has to circumvent them; because water is scarce, he has to bribe the villagers to secure it for him. If any one, such as a missionary, is lucky enough to possess film or chemicals, he will buy or appropriate, just as circumstances demand. One time he is combating zero weather in a miserable hut; a few weeks later the problem is how to dry his film without melting it. Then, having secured the negatives, the great problem has to be solved of how to get them out of the country without the knowledge of the authorities. Space forbids telling of all the uses to which his kodak is put; in fact, he uses it for everything but for cooking his meals. One can not, however, but express admiration for the fine photographs he got, and to congratulate the kodak people on turning out instruments that are fitted for anything in the way of photography.

DON'T forget that there is a new edition of "The Photo-Beacon Exposure Tables." Ask your dealer for it. 25c.

PICTORIAL COMPETITION No. 75.

Since these competitions were started I do not think any one of them has brought me so much pleasure as this. Not only were the entries much above the average, but practically every print sent in possessed pictorial merit. A more uniformly meritorious collection of photographs I never saw submitted in any competition, and my experience has been a fairly wide one. Not so long ago the contestants were usually narrowed down in short order to not more than a dozen, frequently less, but here almost every print had to be weighed before the final decision was made. Those who won the prizes can rest assured they won them after a struggle; those who get only honorable mention may congratulate themselves on getting even that.

The following are the awards:

First Prize — W. H. Porterfield, 100 Lakeview avenue, Buffalo, New York.

Second Prize — Sara W. Holm, 406 E. Erie street, Chicago.

Third Prize — Oscar Von Engeln, 140 La Belle street, Dayton, Ohio.

HONORABLE MENTION.

J. R. Iglick, Chester Thompson, K. Stoel, Charles Vandervelde, James Thomson, A. H. Moberg, Louis Fleckenstein, Mrs. Pearce, F. E. Bronson.

PARTICULARS OF WINNING PICTURES.

First Prize — Made 10 A.M., in March, cloudy weather, open stop, on Cramer Isoplate, enlarged to 7 by 9 from 4 by 5 negative. Printed in carbon.

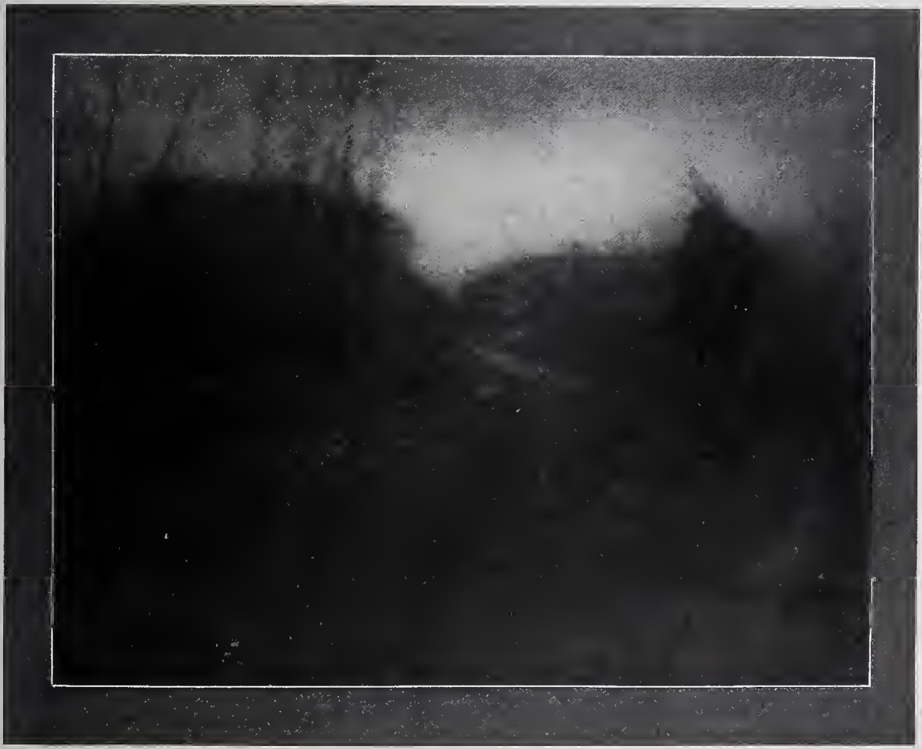
Second prize — No particulars given.

Third Prize — Made in June about 7 A.M. in hazy sunlight, stop f-8, exposure ½ second. Printed on Eastman's sepia paper.

CRITICISM.

Just for a change I went up against a new lot of judges this month, and the first thing they did was to throw out the first-prize picture. I mildly asked why. "Because it is not a photograph, and, therefore, has no business to be included," was the reply. "Just take my word for it, that everything here is strictly photographic," I answered, and then the five artists began to argue the impossibility. But I insisted that it be accepted as a photograph, and like the rest judged simply on its pictorial merits.

I hate to reproduce it for two reasons. First, it will throw a good many of the readers into a fit of indignation because it is neither sharp nor well-defined, and, secondly, because the print is one that should be viewed from a distance of at least six feet, in order to get the effect the maker desired, and such prints are hard to reproduce satisfactorily. The turn of our sharp-focus friends is coming shortly; they are to have a competition all to themselves, and I am patiently waiting to see if the kickers can make good, so the soft-focus devotees will have to ask them to be patient just now, and will probably endeavor to reciprocate a little later when the sharp-focus pictures are shown. It takes all kinds of folks to make a photographic world nowadays.



W. P. Porterfield, Buffalo, N. Y.

FIRST PRIZE.

Honestly, I have to admit that I can not in words describe this print, simply because it is the outcome of the artistic feeling of the maker. The subject and arrangement are ordinary, but everywhere there is beautiful gradation, all working to a common end, which I find I can not cold-bloodedly analyze, so all I can say is that I feel I would like to hang this picture on the wall where my eye would frequently fall upon it accidentally once in a while and let it linger there when I was thinking of something else.

The second-prize picture is sharp in focus, so the reader can see it is possible for a good photograph to be either one or the other, depending entirely upon the subject and the way it is handled. The varied spacing is very evident, and so is the fine range of gradation from black to white. I would particularly draw attention to the cap, which harmonizes so perfectly with the extremes of light and dark on the sides.

The third-prize picture is also sharp, or nearly so — I am thankful — and the charm here lies in the naturalness of the grouping which at the same time is very varied. There is a fine play of light and shade throughout that makes it very attractive.

F. DUNDAS TODD.

FUTURE COMPETITIONS.

Competition No. 77 —"At Home" portraiture, that is, portraits not made in a studio. Closes September 30.

Competition No. 78.— Snap-shot pictures. Closes October 31.

Competition No. 79 — Landscapes. Closes November 30.

Competition No. 80 — Flower pictures. Closes December 31.

Competition No. 81 — Sharp-focus competition, either landscape or waterscape subjects. Closes December 31.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else.* The outside of the package in addition to our address, may bear that of sender. Accompanying a letter or postcard should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.

2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.

3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.
Second — Books to the value of $2.50.
Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

PROFESSIONAL PORTRAIT COMPETITION No. 7.

Some of my readers may be interested in some of the letters that reach me from professional photographers each month, giving the writer's opinion of the work I am trying to do. Here are two of them out of over a score received:

DEAR MR. TODD,— I am mailing another print to be slaughtered in the portrait competition pen, but probably you will say it has already been butchered, and no doubt it has, from an artist's viewpoint.

However, I have sent nothing but such as I deliver to my customers, and I am very certain that I could not deliver the pictures that have won first prizes in the competitions, fine as they are. I'll admit I am "backwoodsy" and also my customers.

I hear you say, "Educate them by giving them a better class of work," etc., but there's the rub. I am not rich nor able to equip myself with what you or any other first-class photographer would consider an average outfit. I am located in a town of about one thousand population, half black. Traveling men come around just often enough to make prices hard to get and keep many from patronizing for fear of fraud.

True, I keep THE PHOTO-BEACON and other journals where my customers can see the work of the best that America produces, yet, when I ask them how they would like something similar to those, they turn away with the remark that they don't want anything like that.

I certainly appreciate your criticisms, even if they do tell me to "cut loose," for I think that feature of THE PHOTO-BEACON the best ever introduced, and only wish you could devote more space to it, so we could all be benefited by each other's criticisms.

As it is, we only see the best work, and a criticism that you make on my work or any others, only benefits the one to whom directed, unless accompanied by the picture.

Thanking you sincerely for your time, and with the best of wishes, I am,

Yours truly, ———

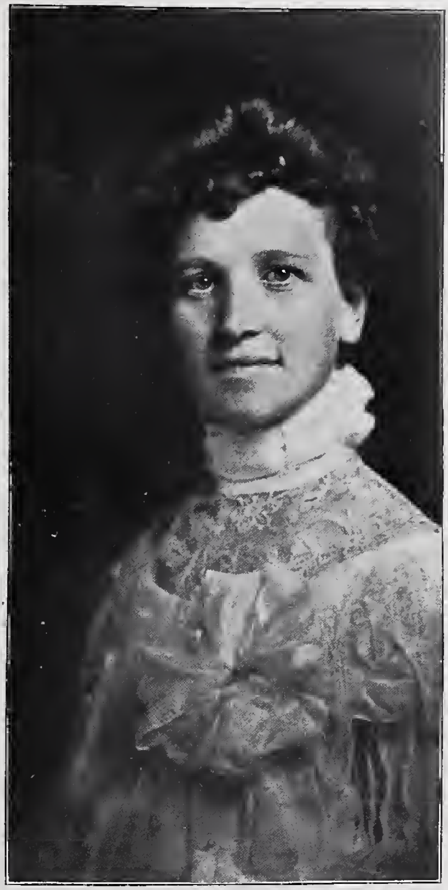
PITTSBURG, July 14, 1904.

Mr. F. Dundas Todd:

DEAR SIR,— I wish to express my appreciation of your splendid constructive criticism of my picture, which appears in this month's issue of THE PHOTO-BEACON. You seem to have been in perfect sympathy with me in your analysis of the result of my effort. I wish to correct several errors that occur in your article. The first-prize picture was made in Pittsburg, instead of Chicago, and printed, not with "cotton dodging," but *straight out* — simply through bolting cloth and black veiling. The picture has been reproduced several times, but this, I think, is by far the best cut. On account of your error, I had to make good by showing the negative to several of my friends. Why don't you publish the name and address? I suppose you have a motive in not doing so, though I think one generally likes to know by whom and where the pictures are made.

Yours for progress,
H. F. WALBRIDGE.

Now I have seen the work of the first writer off and on for a good many years and have appreciated the many difficulties a photographer in a decidedly Southern town has to wrestle with, for I am personally well acquainted with hundreds located much as he is and have their story. But speaking right out in meeting, I want to say that the chief fault I find with his work is as yet not with its lack of pictorial quality, but rather with the want of technical skill. Like the majority of professional photographers whose work I see, he is unable to produce a really good negative, with the necessary result that his prints are poor. At a guess, I would say he frequently gets fogged plates either by using a poor brand of ruby glass or postoffice paper, or he fails to get sufficient density. I think the former is his trouble. The print he sends for this monthly slaughter is by far the best I ever saw from his place, for this is the first time I have received from him a portrait in which the head looked as if it were a solid ball, not a flat surface. But in the mass of hair there is practically no detail, and yet just behind it is that "confounded" white spot one finds on so many backgrounds. The result is simply a mass of meaningless black against a mass of equally meaningless dirty gray. Scientifically considered, in a good negative there must be deposit everywhere excepting where the edges are protected in the holder and I would urge my correspondent to always keep this fact in mind; also this, that unless sufficient exposure be given such deposit can not be got by any method of development. I could make other points about the print under consideration, but this one is so radical and at the same time applies to so many people that I will leave it to stand alone lest I detract from its importance.



SECOND PRIZE.

I have to apologize to Mr. Walbridge for the mistake I fell into. In making my selections I never bother looking at the names at all, for they are of no moment in helping to a decision, and so the casual glance I gave his print suggested the name of a Chicago photographer. I am glad to have his letter for a more important reason. Everybody knows that a critic's opinion is that of only one man, but I find too many photographers want to hide themselves entirely behind that statement, and to consider their estimate of their own work just as good as that of the man who sees a vast variety in the course of a year. The fact that I was able to read just what Mr. Walbridge thought while he was working should, I think, inspire confidence in my opinion. The trouble with most of the photographers I come across lies in this, that few of them give any evidence of thinking on the part of the maker.

In making the selection this month I had the valuable assistance of my good old friend, Mr. James Inglis, and I am glad to say that we were both in perfect agreement, though each of us made the selection independently. The first prize falls to a photographer in a small town who has before now attained the same honor. Sometimes he is a prize-winner, more often he is wide of the mark, and I sometimes wonder why he is so uneven. In the print sent in this month he has a bit of fine modeling, everywhere there is fine play of light and shade. The face is naturally a strong one, full of character, and my readers will notice that he has lit it strongly, running quite a long range of tone from almost white to dark on it. Yet everywhere there is gradation, not a spot but one can find that quality. The same fine tone quality runs through the clothes, so one can point to the fine technical skill here displayed. Last week I attended the Indiana convention and at a rough guess I would say more than half of the prints on the walls were killed by the use of an unsuitable background. Just note how the middle-toned background used here harmonizes everywhere, and see how the effect of solidity in the body of the sitter is attained by the dark on the far-away shoulder, yet dark as that little bit is see how it blends in with what is beyond.

The winner of the second prize has already taken awards with portraits in style very similar to this one. In all the work I have seen from this photographer there is one feature noticeable, the fine technical skill displayed. One feels he is a maker of first-class negatives, as a means to an end, however. The modeling of the face is excellent, and with great skill the light drapery has been subordinated to the face. The one thing that made me put this print second was the dark background, which, I think, is too heavy for so young a face and so light drapery.

The third prize was awarded after much hesitation, because there were two strong claimants for the honor, but in the end both Mr. Inglis and I, working independently, arrived at the same decision. Here we have a splendidly lit face, and a fairly well-posed figure, but rather jarred out of harmony by the open book which in size and value conflicts decidedly with the principal object — the face. The photographer evidently realized the importance of subordinating the volume, for the tone might easily have been much lighter, but I presume he felt there was no remedy after the negative was made. Now, for a case of this sort, the cure happens to be very simple. Every photographer should invest in a cake of crayon sauce, mix with it enough fine pumice powder to cover a dime, and it is ready for use. It is applied to any mat-surface paper by rubbing it on with a bit of chamois leather, and blends so perfectly with the paper that its presence is hard to detect.

HONORABLE MENTION.

Henning.— Your print is easily fourth.

Pleas.— The view of the face is one rarely chosen, being neither profile nor three-quarters.

H. J. E.— Very fine tone arrangement, but note how far-away cheek seems to come forward instead of going back.

X. Y.— Too symmetrical. Your negative is a trifle too dense.

G.— Capital, clean photography, such as could be sold anywhere. Technically very fine.

O. E. M.— Too many horizontal lines in accessories. You are decidedly weak in composition.

C. E. M.— Very promising. You are evidently a good technician.

F. J.— The best you have sent so far, but note that the figure is falling backward as he has no visible means of support. You could have got better lines in the body by turning it a little toward the camera, still keeping the face a profile.

Hassan.— Technically good, but a black background is too dark for a young girl in white. Why not try one much lighter, midway between the drapery and the face?

Caldwell.— A very charming child picture in which the tone is excellent.

RULES.

1. Only one print to be submitted in any one month, and this must be from a negative made in the ordinary course of business within sixty days of the date it was mailed.

2. The pictures will be judged on the first day of each month, and all prints received prior to that date will be included.

3. Requests for private criticism, accompanied by a fee of $1, may be sent along with the print and will be answered after the judging is over.

4. Mark outside of package with the words "Portrait Competition."

5. Prints are not returnable.

THIRD PRIZE.

DEVELOPMENT — SCIENTIFIC AND PRACTICAL.

CHAPTER I.

In preparing for a new edition of "The Photo-Beacon Exposure Tables" I always find it necessary to undertake quite a serious amount of experimental work, and naturally with my added experience each occasion finds me working with more scientific accuracy.

For instance, in the set of experiments conducted for about four months in the early part of this year, I tried to have only one variation while all other factors were constant. To explain more fully, I exposed only during intense sunlight at 1 P.M., from the same standpoint on the same subject, and always with the same shutter speed, developed always with the same formula freshly prepared and at a constant temperature. The variants were the plates and the stop numbers.

My method of procedure was as follows: First I collected one box each of every brand of plate manufactured in this country, and proceeded to get an approximate idea of the comparative speeds. After a while I hit upon the happy idea of putting six exposures on each plate in the following ratios: 1, 2, 4, 8, 16, 32; the shortest exposure being one that I would naturally expect to be under with the fastest plates on the market. To carry out this idea I procured a set of Millbern's slides, which are intended for amateur use in carrying out the penny picture idea — that is to say, each slide has an aperture in it that permits only a selected portion of the plate to be exposed. Armed with these, I would fill a dozen plates of different brands into my holders, and then wait patiently day by day for a beautifully clear noonday. I need not say how often I caught the midday train home, only to be disappointed, or how often the clouds cleared away unexpectedly at the fated hour when I was laboring at my desk. Once in a while the combination was perfect, and then I would proceed to make a total of seventy-two exposures as rapidly as I could, and I can assure my readers it is no joke to ring all the combinations perfectly in such a set. How I detested the casual remarks that were flung at me to which I had in common decency to respond. When I was begged to photograph a dead colored baby a few hours old, I had to stop and explain why I could not, and presto I lost a cog in the wheel. Passing bicyclists, teamsters, automobilists and such seemed to all take a sudden fancy to be perpetuated as they then were, but one and all got negation quick and to the point; wandering children and dogs seemed to find in me the long-lost companion they had been tracing for years, but even their remarks and gambols were sufficient to throw me out, and so I had to get rid of them. One plate I remember was a regular hoodoo, for I had to make no less than four sets of exposures before I got a good series.

Since each lot of half a dozen exposures, ranging from, say, one second to thirty-two seconds — in reality the time of exposure was constant, the stop being enlarged to give the longer exposure — were all on one plate it is evident that all of them were developed in exactly the same way — underexposures, correct exposures and overexposures. I must confess the results would have surprised myself had I not for some months previous been studying the Hurter and Driffield system of plate testing as set forth in "The Photo-Miniature," No. 56, a book, by the way, that should be studied by every one concerned with photography, whether professional or amateur. It was my habit to take proofs from each negative and several times I amused myself by asking my visitors to arrange the prints in order of exposure, a puzzle that not one of them ever succeeded in solving.

Let me illustrate the point, in fact, let us get down to some practical results, then from these we may proceed to theorize. My test subject is a view of part of my own home, as seen from the backyard. The wall is light yellow brick, the roof is painted dark green, the porch is white, with black mosquito screens, its ceiling is a dull yellow. In the foreground are rose bushes with some newly turned-over soil in front. The tree trunks are in shadow, and every body knows that dark green is a hard color to render with an ordinary plate. The sky above has not a cloud in sight. I think it will be admitted that here is a big range, both as regards color and lighting. In my testing work I do not consider the plate sufficiently exposed for ordinary work unless the negative show decided deposit — that is, detail — on the ceiling of the porch and on the trunks of the trees in the foreground. As I write a really good amateur, a frequent prize-winner in our competitions, has come in, and I have shown him my set of negatives, and he describes my theoretically correct exposure as being, from his point of view, an ideal one. I do not rate it as high as that, but the point I want to make is this, to get a starting point I have not made a rather underexposed negative, but have erred on the other side, for I would undertake with the same conditions of light, subject, plate and development to get what the average man would call a good negative with half the exposure.

Suppose my camera in position, the plateholders filled with ten Seed 27 plates — these are selected because a fast plate is generally supposed to possess very little latitude in exposure, and because fast plates are the most generally used by all kinds of photographers. I am using a 4 by 5 Cartridge Kodak in which is a Cooke 6-inch lens, fitted with a Volute shutter. After focusing on the subject I set the shutter speed at 1-5, the stop indicator at f-32. Two plates are exposed, special precautions being taken with the shutter to get uniform results. For instance, I take the bulb in one hand and set the shutter spring with the other, and the instant I hear the click I press the

Sara W. Holm, Chicago.

SECOND PRIZE.

bulb, for I have learned, and proved by measured test, that there is a decided difference in many shutters between exposures made the moment the instrument has been set and when a few seconds are allowed to elapse between setting and discharging.

The stop is now changed to f-22 and another pair of exposures made, then f-16, f-11 and f-8 follow in succession. This series of exposures gives me five pairs of plate with the following ratio of exposures: 1, 2, 4, 8, 16, and since the first one may safely be called sufficient, if not a trifle over, then the last one is sixteen times overexposed.

F. Dundas Todd.

PHOTOGRAPHY AS A PROFESSION AT HOME AND ABROAD.

On more than one occasion of late we have referred to the present state of the photographic business in this country, and the poor future there seems to be before it, both for employes and employers. Our object has been to advise all those who contemplated entering it as a business or profession — whichever it may be called — to give the matter their serious consideration before coming to a decision on the point. The present state of the business, especially as regards portraiture, is at a very low ebb, with but little prospect of immediate improvement.

In our issue of the 8th instant we directed special attention to the present state of the labor market in England. In Germany it seems that a very similar state of things obtain as here. In a previous article we gave extracts from a return made by Stores' Studios, reprinted from the *Photographische Chronik,* that the wages paid to assistants range from 25s. to 200s. and 350s. a month; but the number that receive the latter sums is limited to one each. The average wage, it appears, is about 110s. a month. Out of the numbers quoted sixty-two earn more than that sum, and eighty-two less. The hours worked are mostly long, ranging from eight to eleven, but only six worked the shorter time.

In the United States things seem to be very similar. Some time ago we quoted from an article by Mr. Dundas Todd, editor of The Photo-Beacon, who has devoted a great amount of time in investigating this subject. In it he says that before a recent convention "I made the statement that I believed that at least seventy-five per cent of the fraternity, whether employer or employe, did not have an annual income exceeding $500, and urged my hearers to contradict me if I was wrong; but it was admitted unanimously that my figures were correct." Now, $500 in America are equivalent to £100 in England, and we should say that at the present time in this country, fully seventy-five per cent of photographers — employers and employes — are not making even so much as a hundred a year net profit out of their profession.

On former occasions we have mentioned that our advertisement columns, "Situations Vacant" and "Situations Wanted," are a pretty fair indication of the existing state of the labor market. But the columns devoted to "Businesses and Premises" are also a good indication of the state of business by showing the number of businesses there are for disposal and the stated returns they make. Of course, there are many reasons why businesses come into the market, but we venture to say that in the majority of cases whatever other reasons may be given, the profits made are not in accordance with the ideas of their owners, hence the disposal.

It is interesting to note the returns that are mentioned in some of the advertisements, and we may well surmise that, as quoted, they are not understated. We will quote from one or two advertisements that have recently appeared: "Takings £5 weekly," "Takings £4 weekly," "Returns £250," etc. Now, when one considers that out of these sums rent and, probably, taxes have to be paid; material — plates, paper, mounts, as well as enlargements and finishing, have also to be reckoned as out-goings; also an assistant of some sort is necessary; the profits on such businesses must be reduced to a very small figure. Another point in connection with these small businesses is that, generally, the prices charged for the work are exceedingly low, and must, necessarily, leave but a small margin of profit. There are many businesses in the suburbs of London, and in small country towns, that we venture to say do not bring their owners anything like the income mentioned by Mr. Dundas Todd, namely, a hundred a year after all expenses are paid.

Oscar Von Engeln, THIRD PRIZE. Dayton, Ohio.

The so-called "coupon system" has done a great deal of harm to those in a small way of business, at least in London and its suburbs. Here three cabinet portraits are taken for half-a-crown, and the sitter is supplied with four "coupons." If he, or she, disposes of three of them to friends, he or she gets another three portraits free by way of commission. This means that there are four negatives to take, retouch, and prints to make and mount for ten shillings. Of course, if a large business is done on these lines it can be made to pay. But if only five or six sitters a day are taken, what can the net profit amount to per year? It is true that something is, at times, obtained by way of extras, but this does not amount to much after all. When all these matters are taken into consideration there is little to wonder at that there are so many small businesses in the market.

Let us for a moment consider what has brought this state of things about, for photography was at one time a very lucrative business and it still is with a comparatively few who have a wealthy clientèle and do the highest class of work. It is the simplification of processes and the methods of working. Plates, papers of various kinds, are now sold ready for use, and there is very little knowledge required to use them, and that is quickly acquired, so as to produce a clear, clean photograph, which, we are sorry to say, satisfies a considerable portion of the public. It follows as a matter of course that any business in which there is very little to learn is sure to be quickly overstocked with mediocre practitioners in every country. The bankruptcy reports that have from time to time appeared in our columns often show that the bankrupt started business knowing very little about it at the time, and frequently with borrowed capital. Some employes, owing to the difficulty of obtaining engagements and the low salaries offered, have been induced to commence business in a small way on their own account, with the aid of friends, thinking that if they could only clear journeyman's wages they would be better off. Alas for some of them and their friends. In the above, and previous articles, we have pointed out to those who imagine otherwise, that photography, either for employes or those who contemplate starting in the business, is not by any means so lucrative as they suppose. These same conditions, we find, prevail also in Germany and in America, and probably in all parts of the world, and that is not at all surprising, for the reason just mentioned. —*British Journal of Photography.*

THE BRITISH JOURNAL ALMANAC.

THE "British Journal Almanac," for 1905, is now in preparation, and this mammoth annual bids fair to become as bulky, if not more so, than in former years. The book will have something over fifteen hundred pages, incredible as it may seem. In spite of its great number of pages the price of the "British Journal Almanac" remains unchanged at 50 cents for paper, $1 for cloth binding, postage 28 cents, at which price it may be ordered from any dealer. Mr. G. Gennert, the American distributing agent, 24 and 26 East Thirteenth street, New York, assures us that the American supply is positively limited to two thousand copies, and as this is only one copy to every six photographers in the United States, it follows that, as was the case last year, the book will be sold out before the supply is received. Photographers are urged to order of their dealer at once, to avoid disappointment.

INTENSIFICATION AND REDUCTION.

A PERMANENT AND SELECTIVE PROCESS WITHOUT THE USE OF MERCURY OR OTHER METALS.

Tradition to the ignorant and careless is law! It is my own proverb, applied strictly to photography, and propounded to account for the still prevalent use of mercury and other metals in the process of intensification and reduction.

Some twenty years ago a German, interested in photographic chemistry, proposed as a means of intensification the conversion of the metallic deposit into silver bromid, and redevelopment with nitrate of silver, by which process great intensification was secured while the deposit still remained composed of silver.

In 1895 I tried the process for bromid work, but found it unsatisfactory on account of the staining propensities of the silver nitrate. I then tried exposing the bromized print to daylight, and redeveloping with an ordinary bromid paper developer. In this way a much better result was secured as regards purity of reaction, but the intensification obtained was much less. Redevelopment in a ruby light without previous exposure to light gave practically the same effect as regards deposit, but the resulting intensification was little more than a very perfect clearing of fog and "mud" in the shadows.

A paper read by Mr. H. Teape at one of the London photographic associations recently, described the process of intensification and reduction without the use of metallic salts, almost in its entirety with regard to one of the reagents, and I must say that such a paper from a clever worker deserved more interest and attention than it received at the time of reading. Mr. Teape claimed to be the first to introduce the process in England, and I am at a loss to conceive why or how it failed to attract the public notice — unless it is that my proverb holds good. My own experience confirms all that he said about it, but also includes one or two important features which have not as yet been published.

The means of producing reduction of

contrast is possible when, in the process of the redevelopment of the image, the highest tones reappear before the lower, since it is only necessary to immerse the plate or print in hypo to dissolve out the unaltered bromid. The cause of the intensification effect is rather difficult to settle definitely, and Mr. A. Haddon seems to be the only one who has suggested a possible theory.

He made the suggestion that the silver was reduced in a fine state of division, and therefore the particles closer together.

It is of the utmost importance that no trace of the halogenizing or oxidizing reagents be in the film when redevelopment occurs, otherwise you set up a complication in the way of a combination of the silver with another metal. Thus, I have seen stated as a method of intensification, that cupric bromid should be used to bleach the image, which should then be only slightly washed, as, if the washing be too prolonged, the copper will be washed away and no intensification take place.

Jos. R. Iglick, AT THE FIRE. Rochester, N. Y.

The very absurdity of such advice is sufficient to condemn it in the eyes of any intelligent reader; for the word slightly is in no sense a measurement, and no information is given as to how much copper should be combined with the silver to produce the least intensification.

The great thing is to obtain the image in as perfect a state of silver bromid, chlorid, etc., as possible, for then, and then only, will the image consist of pure silver.

Some of the various reagents for converting the metallic silver into the reducible salt are as follows:

No. 1.

Cupric bromid:

Copper sulphate (pure and free from iron)	200 grains
Potassium bromid	200 grains
Water	10 ounces

Silver converted into silver bromid.

No. 2.

Potassium bichromate	50 grains
Potassium bromid	50 grains
Water with 5 minims of hydrochloric acid	4 ounces

Silver converted into silver bromid.

No. 3.

Potassium ferricyanid ...	50 grains
Potassium bromid	30 grains
Water	4 ounces

Silver converted initially into silver ferrocyanid and then into silver bromid.

No. 4.

Potassium ferricyanid ...	50 grains
Water	4 ounces
Ten per cent ammonia...	60 minims

Silver converted into silver ferrocyanid.

No. 5.

Copper sulphate	200 grains
Sodium chlorid	200 grains
Water	10 ounces

Silver converted into silver chlorid.

There may be many other reagents, but the above are the only ones I have tried.

Their respective reactions are very different.

The bromid salt produces a pure, rich, velvety black on redevelopment, while the ferrocyanid and chlorid produce a brownish black, and can not therefore be used for bromid paper unless this tone is required, in which case a beautiful true sepia color may be obtained with a metol-hydroquinone developer when applied to the ferrocyanid of silver. For negative work the water in the above formulæ may with advantage be reduced to half.

When using the cupric bromid solution, the excess of copper after bleaching must be removed with nitric acid; with the cupric chlorid solution hydrochloric acid is used; and with the bichromate and ferrocyanids potassium metalbisulphite of one per cent strength.

Upon redeveloping after bleaching with the cupric bromid the lightest tones reappear first, the deepest shadow following slowly; with the other formulæ the return of the image is much more uniform, hence, for the purpose of reduction (reduction of contrast), they are not so effective.

Undoubtedly the cupric bromid is the best for both intensification and reduction.

THE PROCESS.

It is hardly necessary to give a detailed description of the process with all the formulæ; I will therefore treat of the cupric bromid only, since the manipulations will be the same in all cases, with the only difference of the clearing solutions.

The negative or positive is soaked in water till the film is perfectly saturated. It is then placed in the cupric bromid solution and rocked till the deepest shadow or highest light, as the case may be, has disappeared as far as it will go.

Wash in running water for five minutes, and apply a five per cent solution of nitric acid, rocking the dish for five minutes. Wash again for one or two minutes to free it from the acid, and apply the developer.

In my own work I invariably use a metol-hydroquinone developer, but any other used for bromid work will do. The intensity of the deposit does differ slightly with different developers, but not so much as to warrant the keeping of any special kind for the purpose.

Where intensification only is required the developer may be fairly concentrated, but when development is commenced for the purpose of reducing contrasts, it must be diluted to at least five times the normal for negative work, and ten times for positive work.

The action with a concentrated developer is fairly rapid — that is to say, from fifteen to twenty minutes is generally sufficient, but the application of the solution should be continued for at least five to ten minutes after the action appears to be complete. Washing in water for five minutes is sufficient to clear away the developer from the film. With bromid paper the action is more rapid. For the reduction of contrast the progress of the return of the image must be carefully watched, and when the desired stage of intensity over the whole scale of gradation has been reached, the plate or print is straightway immersed in the hypo bath, when the remaining bromid is dissolved out, and the image fixed for all time. Greater intensification is secured if the bleached image be exposed to daylight for five minutes. The final intensity may be controlled by diluting the developer, and stopping by immersion in

Chas. Vandervelde, Grand Rapids, Mich.

hypo at any stage. Bromid of potassium has a slight effect on the contrast before redevelopment is complete, but not nearly so much as in the original development of the image. Two precautions must be observed. The first is that it is imperative to remove all traces of copper before redevelopment, for if this is not done you will infallibly get a metallic luster in the lower tones of your image.

The second is that for the purposes of reduction you must develop with a dilute solution — in positive work not less than ten times — and continue till the deposit is black in color, otherwise there is a risk of unequal or incomplete development, which becomes visible after immersion in the hypo.

There is one feature in this method of reduction which is of very great value. The reduced image may be reintensified, with the result that softened scale of gradation may be made "crisp" or "plucky," while the same value in the tones is *very nearly* preserved.

The principal features of value in the method are as follows:

1. Nothing being added to the silver already in the emulsion, the relation of the tones to one another over the whole scale of the original is strictly preserved, the intensification being in direct ratio with the amount of silver originally present. Admittedly, this sounds rather paradoxical, since it would be natural to conclude that such being the case there could be no intensification. But I find it difficult to correctly describe the appearance of an intensified deposit, beyond the fact that a beautiful liquid depth of shadow is obtained — comparable, in the positive, only to the carbon process — and securable by no other process that I am aware of. Also an entire and complete elimination of fog, chemical or otherwise.

2. Softness or weakness produced by overexposure, dilute development, or other means, in the construction of the original negative or positive, may be so easily and controllably strengthened to any degree up to the maximum; and then, if desired, may be altered again by reduction or intensification; and this without any deterioration to the emulsion.

3. Permanence. Of this there can be no question for very obvious reasons. —*The Amateur Photographer.*

C. Winthrope Somerville.

RE INTENSIFICATION AND REDUCTION WITHOUT THE USE OF MERCURY OR OTHER METALS.

To the Editor of The Amateur Photographer:

Sir,— Having read Mr. C. Winthrope Somerville's very favorable notice of my paper, "Intensification Without Metallic Salts," read last March at the L. and P. P. A., I am writing a few words on the subject, which may be of interest to some of your readers.

I am pleased that Mr. C. W. Somerville has brought the subject forward, as it will assist in making a valuable process known.

Mr. Somerville's proverb applied, as he says, strictly to the ignorant and careless photographer, has not, I think, a leg to stand on, for I know several photographers of some years' standing who are so ignorant of photographic methods that they could not distinguish between the traditional method and the latest move on the board for the life of them. The statement that in 1895 he bromized a print exposed to daylight and redeveloped no doubt is quite true, led, as he shows, to do this by the German's statement. I showed at the meeting when I read the paper some strips of bromid print, bromized and redeveloped eleven years ago, and shown at a meeting of the L. and P. P. A. at that time. I had never heard of a negative or print being chlorized or bromized and redeveloped until I did it myself. But all this is not of much consequence to the general reader, and really does not matter much. Let us get to the practical side.

The use of copper salts I do not advise. I did not mention it in my paper. It is much more difficult to clear from the film, as pointed out by Mr. Somerville, entailing the use of weak hydrochloric acid and nitric acid. The following are good formulæ:

TO CHLORIZE.

Bichromate potassium ...	10 grains
Chlorid potassium	10 grains
Water	1 ounce
Hydrochloric acid	6 minims

TO BROMIZE.

Bichromate potassium ...	10 grains
Bromid potassium	10 grains
Water	1 ounce
Hydrochloric acid	6 minims

The image is completely bleached right through in one of these baths. These solutions may be used until they work too slow, when they should be strengthened; if the solution is stronger it can do no harm. Then wash in, say, three changes water, and in running water, for plates thirty minutes, for prints fifteen, I find quite sufficient. They are then ready for redevelopment. There is no necessity to perform any of the operations in the darkroom.

Mr. Somerville says that he does not find much difference in redeveloping with different developers. I find a very considerable difference, also a great difference between the chlorized and bromized images. Take adurol; this gives a very slight intensification if the image is chlorized, but if bromized it gives nearly as much increase as mercury followed by ammonia. Metol on a chlorized image gives very slight increase; if bromized, gives as much as mercury. Then take pyro 2 grains, sulphite 6 grains, soda 4 grains, water 1 ounce. Take two strips, chlorize one, bromize the other; expose them to light for three tints of Wynne meter. You will find the bromized one is up to mercury, the chlorized one is much more than mercury. This is enough to show the great variation which I have obtained by the process. Mr. Somerville recommends very dilute developer, most especially when the process of reduction is required. I do not find this necessary, as the time required is generally about fifteen minutes, I think there is ample time to watch the progress of redevelopment. He says the means of producing reduction of contrasts is possible when in redevelopment of the image the highest tones reappear before the lower. This is very true, but the fact is that they always do appear first in the case of plates. The reason is, I think, quite clear, as the developer can not act through the glass, and acts first on the surface of the film, so on till it reaches the back. By stopping development and fixing you can reduce contrasts to any pitch you please. In the case of a print it is not the same, as the developer can pass through the paper and act on the back of the film. As a rule, I would prefer to make another print, rather than use the process for the reduction of contrasts in a print, as there is some uncertainty from the cause I have mentioned. The use of a broad brush to apply the developer to the face of the print might meet the difficulty.

By the use of this process for the reduction of contrasts there is one effect produced which is of great importance; it is that the delicate gradations and detail are intensified, just what is generally required in negatives of harsh contrasts. This, I believe, can not be done by any other process.

The irregular change mentioned by Mr. Somerville I have not met with. In all my experiments the action is proportionable right through the scale of gradation, with all the various treatments for intensification.

I advise any photographer who desires to take up the process to make a gradation negative by exposing a plate in strips ¾ inch wide and cut up into ¾-inch widths. I recommend a whole plate. Number them and mount together for reference.

I have no doubt that Mr. C. W. Somerville will quite understand that I do not write this for the purpose of disagreeing with him, my true reason being to explain a few points concerning the process to those of your readers who did not hear the paper read at the L. and P. P. A. Yours, etc.,

J. S. Teape.

Don't forget that there is a new edition of "The Photo-Beacon Exposure Tables." Ask your dealer for it. 25c.

CRITICS AND CRITICISMS.

"Failures in literature and art." Such was the manner in which Disraeli characterized the tribe called critics. True or false, it would be difficult to determine, but this much is plain: A great many of those who have made a name for themselves have done so despite adverse criticism, which goes to show how mistaken the best of judges are prone to be. The critic has a great advantage. The victim is as if in the open and all his weaknesses exposed, while whatever weaknesses the critic has are out of sight. It is not a square deal, and both parties realize it perfectly well. The artist complains of having much to contend with from incompetent and prejudiced comment, but there is no redress, so he puts up with it, contenting himself with an occasional growl.

There is nothing to prevent the incompetents from setting up as critics and imposing on the multitude, the capital required being concealed under their hats and thus difficult to estimate. It is true the pretender can not long deceive those possessing the knowledge necessary to discovering his pretension. But the public he may continue to hoodwink and thus do much injury to estimable persons.

Nothing exasperates the workingman — the skilled mechanic — more than taking orders of an incompetent boss. On the other hand he will cheerfully do as he is directed, when those in authority know more than he does. Nor is there anything more disquieting and irritating to the artist — the painter of pictures or creator of sculptural and plastic art — than to have his product passed upon by those who themselves can neither wield brush nor chisel, notwithstanding which they can detect the faults, real or supposed, in the output of their betters.

In the art class, with what reverence does the student follow the movements of visitor critic (perhaps some man eminent in the profession) as with a few masterful touches he does that which the novice has been trying to do, but in vain. The person who is master of his medium it is a pleasure to look upon when thus exploiting his capabilities. The "cunning workman" in any department of human effort it is a joy to see, but what more depressing than the labored efforts of the bungler? Mankind will be found ready to follow the leader who has proven his fitness by deeds rather than words, and more can be accomplished in imparting knowledge by example than can result from a constant harping on defects or faults, visible or otherwise. Doubtless there lurks in the recesses of the student's mind many times the desire for the critic to put into tangible form *what* his idea of perfection in pictorial expression really is. For years I have followed the criticisms in a department in one of the monthlies — some of them pretty caustic, too — and in all that time it has never been my privilege to see an example of the censor's work, although he is known to fame as an expert, and, for aught I know, is as good as can be found in photography anywhere. The faults have been remarked upon with freedom, but never an example to guide the aspiring, much as they hankered for such a consummation.

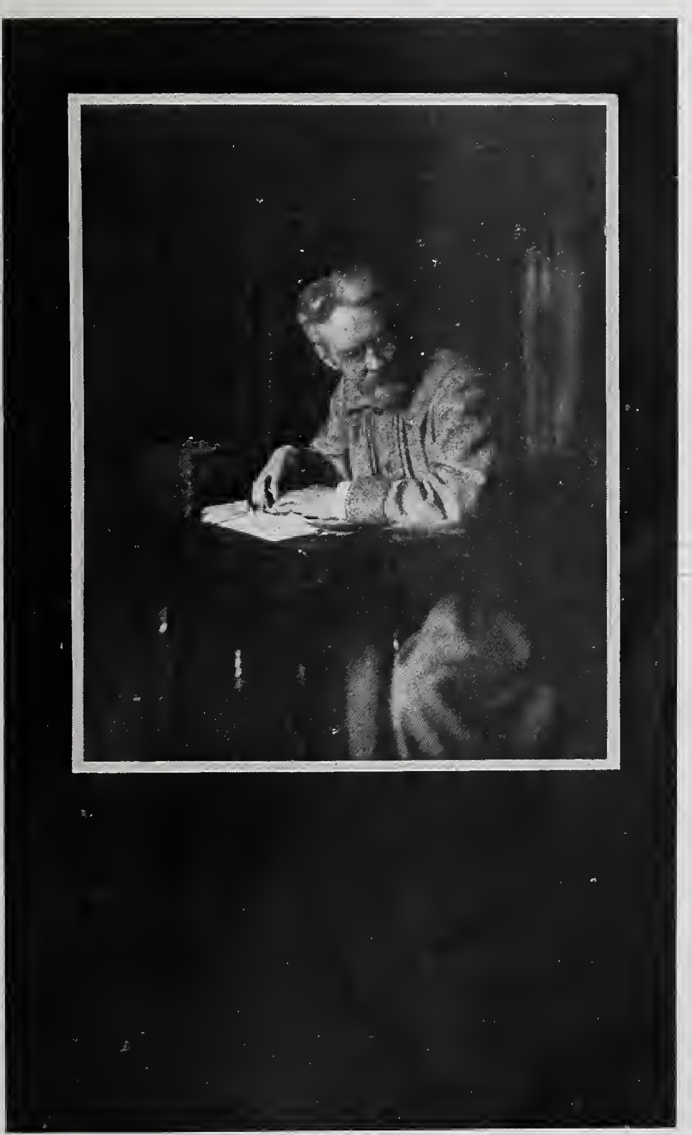
That we have many competent to instruct goes without saying. But the advent of the correspondence school (which any one is at liberty to start, whether competent or not) and photographic departments in the lay press, have developed the fact that some of the heads of such departments are in need of instruction about as badly as those they assume to guide. The ignorance sometimes displayed is amazing as well as amusing. One such instructs the novice to use his lens at "8 degrees Fahrenheit."

One magazine of large circulation, which offers awards for the "best" in photography, gravely announces that only photographs having extremes of contrast can hope to win. Think of that, ye sticklers for tone. Of what value are opinions from such a source? The *best* photographers should esteem it more of merit to be losers in such a contest.

The value of competent criticism to

the aspiring amateur must be conceded, but the loss from incompetent opinion is beyond calculation. Think of the many good negatives that have reached the ash heap because of it. The approbation of the cultured few is a thing worth striving for. If we are able to produce work that good judges applaud, it matters not that some others may ridicule. They would laugh less did they but know more.

For those who know their own shortcomings there is some sort of hope. For the man that has nothing more to learn there is none. He is beyond redemption and may safely be left to a contemplation of himself. One should always remember this: there may be



James Thomson, Boston, Mass.

THE FOOTSTEPS AT THE DOOR.

people who know more than we, it being only our misfortune that prevented us meeting them. Achievement is always greater than promise, and the critic — photographic and otherwise — should realize that an ounce of practice is worth a pound of promise or precept to the student eager for instruction.

It is hard to have patience with those who are ever tearing down and never rebuilding on the ruins. It has been remarked of Carlyle that he led the people into the wilderness and left them there. Ruskin was a severe critic, and a constant one, but he could do magnificent work himself, so exacted it of others. The beautiful examples he left will ever be an inspiration. He at least was *one* critic that did not let his light remain concealed.

But to be such a critic as he requires a tremendous amount of assurance. Implying, as it does, superiority, those who follow his example should be able to furnish credentials as proof of right to the position, and nothing can inspire confidence better than doing that which others find so difficult of attainment. For, after all is said, the supreme test of leadership, the final proof of the right to pass judgment upon the quality of others, is the ability to do that which is demanded of *them*.

Critics we all are, differing only in degree. If you doubt this, just listen to the comments at an exhibition of pictures. There reputations are bandied about much as are old shoes, and with small regard for the feelings of those who make the function possible. Cultured and the reverse are entitled to an opinion and avail themselves to the full, regardless of competence to decide. In the building of a bridge, fabrication of a watch or the construction of a sewer, special training is deemed necessary, but not so in matters of art. We all consider ourselves good judges and competent to decide. " Well, I guess I know a good picture when I see it," says one. " I don't care what these cranks say."

It is true, and a pity it is so, that criticism affecting art is far from being an exact science, and experts differ now, as they doubtless have always done, in judgment of pictures of world renown and undoubted merit. It is singular how those who ought to know can make such blunders as they do at times. Take the case of Corot and his work, for example. Pictures of his, now almost priceless, for the greater portion of the life of the artist went unappreciated, except by himself and a few of his immediate friends and acquaintances. The art world saw no merit in them, or, if it did, failed to buy.

This dictum is not mine. Some one greater than I is responsible for it: " No man should pose as a professional critic, dealing out praise or blame as he sees fit, unless he himself can exhibit as good work as those whom he assumes to correct." The jargon of the studios, the cant phrase of artistic communities is not difficult of acquirement, no more so than the multiplication table. When a fad is deemed essential, even when not understood, some people don it as others do a garment, to be discarded when it is threadbare. It is not surprising, therefore, to find people talking the cant of this, that or the other cult, who have but a faint conception of what it is all about. The artistic temperament, however, is not a thing that can be hidden away from the world. Those guilty of possessing it are likely, sooner or later, to be discovered, and none will discern it in a person quicker than the artist, while at the same time he sees through the mere pretender in short order.

William Morris Hunt, the great American artist, was chary of the critics who could do nothing but talk. In his last days he did not care to exhibit and have his work dissected by such. Hear what he has to say about them:

" No man can teach me to produce good work in art except a producer of good work, and he brings his work with him as a thinker his brains, and a fighter his fists."

" A talker may persuade himself that he knows everything. A doer persuades the world he knows something."

" When the world wants wealth and

works it will demand of the financiers and critics some tangible proof of their wisdom, but paper and talk are easier handled and will suffice for to-day."

"If I am entitled to an opinion, it is through what I have done — works, not words, can instruct."

"The only lessons that painters or poets, architects or sculptors have ever taught or can ever teach are in their works."

"By painting and showing the paintings of others we are to make painters. By working frankly from our convictions we are going to make them work from their convictions."

"We are all taught to criticize and find fault with things instead of being made to comprehend and appreciate them. This comes also from talking instead of doing."

A critic should be a leader of his kind — a king among his fellows; "the man that is able" to do the unusual thing — that thing which is impossible to the many. Is it asking too much of those who would lead us, of those who, of their own volition, place themselves on a pinnacle? I think not and many will echo the thought.

The arbiter in such a case should be many sided and liberal in his views. Careful in guarding against his judgment being warped by personal dislike of any particular cult. The great masters — those that the world accepts as such — should be the models on which criticism should be based, and the canons of art, so called, should inspire his decisions.

It will not suffice to say "this is but the opinion of one man," narrow or broad, as chance may dictate, or educational conditions (on the art side) permit. Authoritive criticism, that may make or break, exalt or depress, should be something more than this. What would we think of a Justice of the Supreme Court of the United States who permitted his own, his personal likes or dislikes, to color his decisions? Doubtless in many cases the judgments or decrees as announced by such run counter to personal desires, being largely based on rules of law and evidence.

Some years ago in this publication there was quite a discussion on account of awards of excellence being made to hazy pictures. Some of the expressions of opinion at that time were almost abusive of a certain doctor, and for what? Simply because he chose to depart from the established method in pictorial expression. Nothing more.

Our worthy editor some time ago told us of a man he called in to act as judge who wanted to award a prize to a photo that represented the old swimming hole of his youth and for nothing else. I trust he was a rara avis in the rendering of decisions in such competitions, but one can see how difficult a matter it is to get a criticism or judgment from some people that represents exact justice. In this present instance merit doubtless was entirely lost sight of, and youthful associations carried the day.

We all see from an individual point of view, and some have a more exalted view than others. Some can detect the niceties, the subtleties and refinements of a work of art that, to a great many others, are completely obscured. Sometimes this quality of nice discrimination is inborn, as in the case of the painter Whistler, but more often it is the result of culture and familiarity with the beautiful. We each see from a different vantage point and the point of view is constantly changing, so that our ideas of to-morrow may differ from those of to-day.

So it must ever be with the critic of photographs. He will be likely to know more to-morrow than he does to-day, and some of the opinions he holds to-day he may find necessary to revise at some future time. "The wise man changes his mind, the fool never does," has come along to us out of the past, and true it is if ever there was a saying true. Take the case of Watkins and his factional system of development, when he first promulgated his ideas — although based on countless experiments — he was laughed at by the wise. But time has brought its revenge, and one after another these extremely positive people have been obliged to acknowledge they were mistaken. Yet there are a few who will persistently, in the face of undoubted facts, deny the truth of his contentions.

We all (in art) know what we like. We each have our likes and dislikes, and a good many of us are so positive we are right, we hope to bring all others to our way of thinking. Some are so determined in the project they deny to others any option in the matter. Things may work for good when we are right, but what deplorable results may follow when we are mistaken. Some students of art on reaching Paris wish they could forget some things they have been at great pains to learn on this side, so I am told, and the reason: they were started wrong by some one who undertook to teach that which it was never theirs to know. Yes, it is a fact; I have known artists who could not paint, and voice builders who could not sing, and yet they pretended to teach others and, of course, simply led them astray. The man who has himself made a failure is unlikely to lead others to success; yet this is what some are trying to do. So, when we get instruction, let us be certain it is the best; whether we call the man or woman teacher or critic, it matters not so long as we place reliance on what they say and follow their advice. To that extent will it be for our good or ill. And it will often be found to be but too true, that what has been acquired with comparative ease we can not forget, when we are most anxious so to do.

JAMES THOMSON.

SHARP FOCUS COMPETITION.

This is most important; that is why it is referred to so often in these pages. Every one who kicks or has kicked about the fuzzy pictures in THE PHOTO-BEACON is expected to make every effort to prove his case, that sharp pictures can be artistic. The editor is blamed by one crowd for printing fuzzy pictures, yet he is just as willing to print sharp ones.

PHOTOGRAPHERS' ASSOCIATION OF AMERICA.

Are you ready for the World's Fair Convention?

The time is drawing near for the convention of the Photographers' Association of America, and if you have not made ready, you should do so at once, for this convention will be a good one, a pleasant one, and will be a loss to you if you miss it.

Some of the points of interest are:

A select exhibition of pictures from all quarters of the country.

A review of the pictures in the Fine Arts Gallery of the World's Fair by Professor Griffith.

Demonstrations of the new Cooper Hewitt mercury light, and pictures made by the same at the convention hall.

Demonstrations in flash-light photography.

Exhibitions and demonstrations of photographic printing machines.

Practical demonstrations in home portraiture.

Photography from 1846 to the present time, by the oldest photographer in the United States, who is eighty-two years old, yet young as the rest of us. You will enjoy this.

Exhibition of color photography, something new.

Manufacturers' and Dealers' Day, in which to examine all that is new in photographic apparatus.

Presentation of life memberships to the past-presidents, and a ten-minute practical talk from each.

A program full of good, practical things.

Half-day sessions only, which will be held on schedule time.

Afternoon visits to the World's Fair, where will be found instruction and amusements of a lifetime.

The most social convention of all, where we will eat, sleep and enjoy the convention all under one roof.

Hotel rates of $1 and $2, two in a room, European plan, guaranteed by contract, and the exclusive use of the hotel to the convention people for the week.

Very low rates on all railroads, the World's Fair rates.

Great effort is being made by the Executive Committee to make this convention a successful one in every particular, and every photographer is urged to lend all assistance possible by getting up his best display.

Chester Thompson, THE BALLOON MAN. Seattle, Wash.

The convention will be held in the buildings of the Forest Park University, which have been converted into a hotel for the fair period, and is near the southeast entrance to the fair grounds, and on the car lines that run west from the Union Station. (Take the Laclede or the Market street cars for the hotel.)

It is important that you secure quarters before coming to St. Louis, as you will save time and trouble. To secure accommodations at the Forest Park University Hotel you must have your dues paid and a receipt from the treasurer, as the hotel has been reserved for the members and families only.

To avoid delays and mistakes in shipping, send to the secretary, George G. Holloway, Terre Haute, Indiana, for shipping labels.

Pack your pictures securely and have return address on the cover.

Pictures for the art exhibit should be shipped to Charles W. Hearn, Forest Park University Hotel, St. Louis, Missouri, in care of Fowler's Transfer.

All goods for the manufacturers' and dealers' display should be shipped in care of the secretary, George G. Holloway, directed as above, and in all cases transportation charges must be paid.

Goods sent in care of Fowler's Transfer will be taken direct to the hotel, otherwise they may be held in the city offices several miles from the convention hall.

Pay your dues to the treasurer, Frank R. Barrows, 1873 Dorchester avenue, Boston, Massachusetts, and get your receipt and order for hotel accommodations beforehand.

Remember the date, October 3 to 8, inclusive.

C. R. REEVES, President,
Anderson, Indiana.
GEORGE G. HOLLOWAY, Secretary,
Terre Haute, Indiana.

AMONG the most handsome, as well as interesting exhibits at the fair, is that of the G. Cramer Dry Plate Company, located in the Palace of Liberal Arts, block 53, at the intersection of aisle G and aisle 4. This exhibit, which is the only one of its kind at the World's Fair, consists of a large number of the finest photographs and a number of exquisitely beautiful transparencies, all made by the foremost photographers and artists of this country, on the famous Cramer plate. This exhibit must be seen to be appreciated, and we would therefore strongly urge any of our readers who attend the fair to be sure and visit this very interesting display, feeling confident that what they see there will amply repay them for their visit. The Cramer Company have advised us that they will be much pleased to have visiting photographers to the World's Fair call at their factory, at the corner of Lemp avenue and Shenandoah street, where a most cordial welcome awaits any visitor.

LITTLE TIN GODS ON WHEELS.

"These statements will bear investigation."

Come, lend a helping hand; wheel them away to the little corner where they belong! They have obstructed the road to progress long enough. For years they have had everything their way, while you stood peevishly around, not daring to raise a single word in opposition. Wake up, and show that you also have something to say and that, at last, you have grown tired of their unbearable dictatorial attitude.

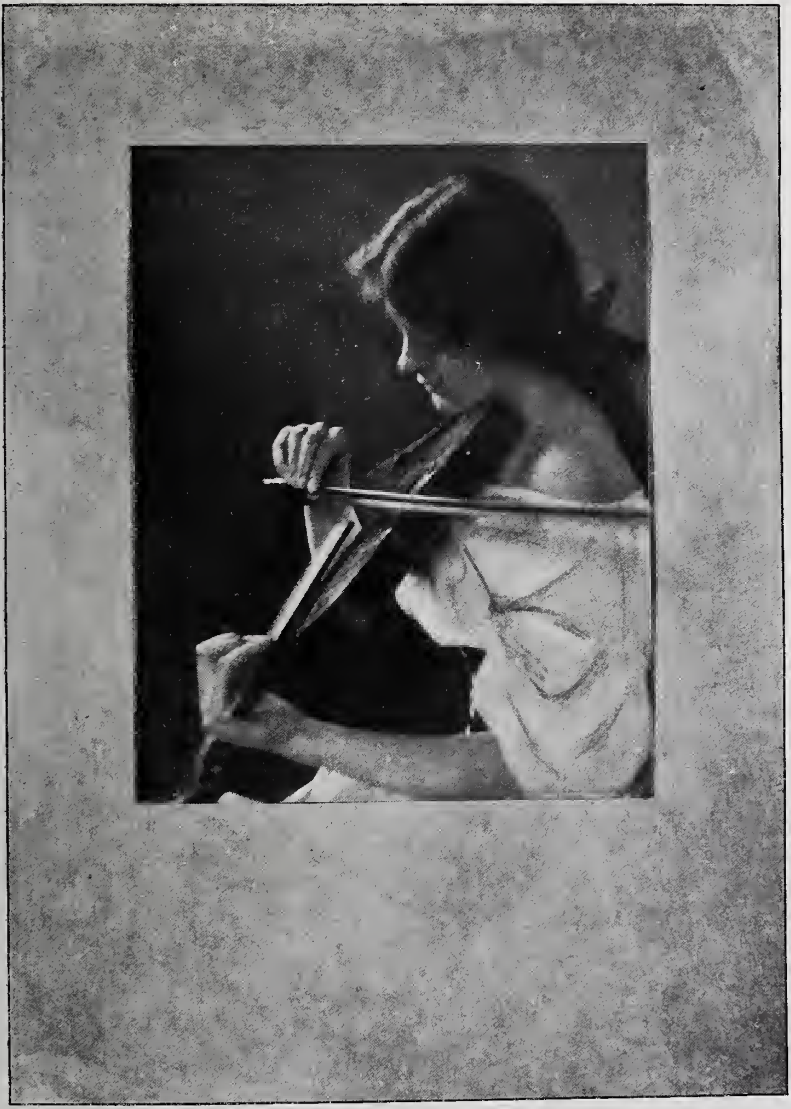
Every man should possess a fair amount of self-conceit — without it a man would be lost in this world of assumption and aggressiveness — but the self-conceit of the Little Tin Gods on Wheels has become abnormal, preposterous, has grown into the very heavens. It could not even be caricatured, as no page could be large enough to convey the dimensions of their swelled heads. They think they are giants, towering high above the rest of humanity, their mighty crops of hair overshadowing all other pictorial efforts.

And yet these little tin gods represent nothing but one little phase in the pictorial photography of America. They represent the school of "tonalists." Every experience of life is subdued into tone, and, mark you, not tone in the large sense of the word, tone which depends on line and chiaroscuro, on texture and color values, but simply on an even, flat, monotonous surface. If you have other ideals about art, you can not get into their sacred circle, you are an outcast for the rest of your career. You can not get into their exhibitions and the pages of the gray magazine will be forever closed to you.

And what miraculous things have they done that the whole community should stand spellbound? Is it their utter disregard for the simple and more normal aspects of life; is it their imitative power, their slavish dependence on the work of other men, the painters of the past and present, on whose thoughts, on whose technic and conception of life they have subsisted all these years! Until now imitation has always been considered an inferior accomplishment in artists which children and savages share with them. And an art which in conception as well as technic is entirely built on imitation, if not plagiarism, is that the one recommendation they have for themselves — is that the reason why every one stands on tiptoe when the little tin gods are wheeled by in solemn procession, why editors, amateurs and professionals strew flowers of compliments in their paths and longingly lift their arms toward the passing apparitions?

It is incredible. The whole country, as far as photography is concerned, must have been asleep.

Is it really possible that no one has dared to say " Bosh! " that all editors and directors of art institutes have been



Louis Fleckenstein, THE VIOLINIST. Faribault, Minn.

blindfolded, and that now, for the first time after years of unpardonable tolerance, a movement of opposition is afoot?

Wake up, all amateurs, members of camera clubs, dealers in photographic wares, editors and critics; rub the sand from your eyes, for there will soon be something doing in photographic circles. War has been formally declared on the T. G. O. W. by one Curtis Bell, and the members of the S. C. O. A., and soon the first battle will be on.

And you pictorialists throughout the land, you who have worked patiently and conscientiously for years with never-tiring energy, and have perhaps put the best of your life in your photographic work, will you any longer stand the undemocratic, un-American policy of these little T. G. O. W.? Will you continue to hold your hands in your lap, and wait for the crumbs which they brush off the table, at which they are feasting?

Shame upon you! Can you really all be bulldozed into submission, into brainless adulation and non-committal silence? And you, Yarnall Abbott, May Devens, W. F. James, Sarah Sears, S. L. Willard, Annie Brigman, H. S. French, Stockton Horner, Rose Clark, Elizabeth Flint Wade, Prescott Adamson, H. C. Rubicam, O. N. Potts, Oscar Maurer, etc., have you not sat at the portals of the toyshop long enough? Do you still fail to comprehend that you will never be admitted as their equals, that your work will never be considered as exalted as theirs? Have you not realized that for ever and anon you will play second or third fiddle to them?

Do you not see that even John G. Bullock, W. B. Dyer, Eva Watson Schutze, R. S. Redfield and Edmund Sterling, who belong to the very council of the little T. G. O. W., are not *tony* enough to be expounded in the pages of the gray magazine? Do you not perceive that there is a circle within a circle, that all other would-be tin gods are only utilized for the glory of the seven — or are they only four — almighty ones?

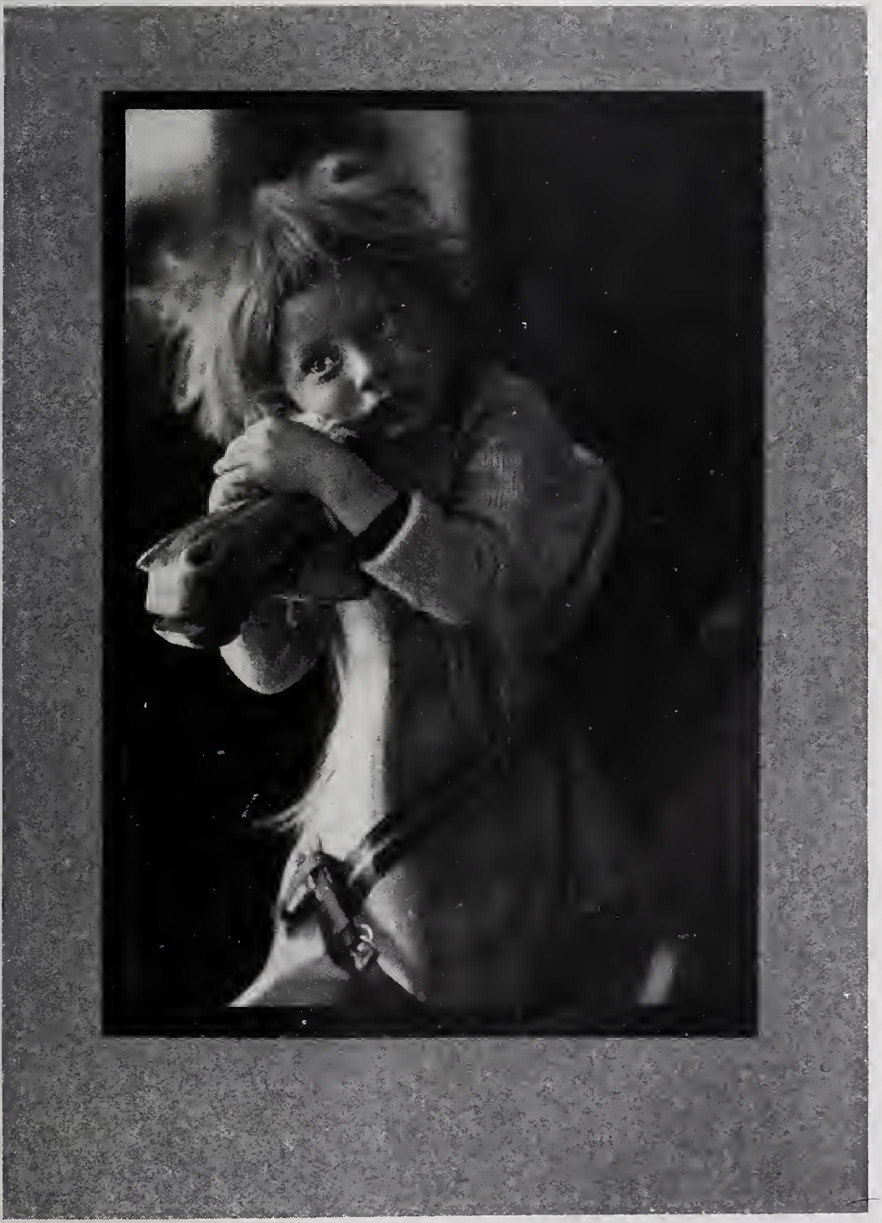
They revolve around themselves. They admire each other, but most themselves. Sensitive to the extreme when their own welfare is concerned, they utterly disregard anybody else's claim to originality. They think that the whole world is looking at them, while, in truth, hardly anybody knows of their existence. They consider themselves the pink of perfection, and are frequently overcome by their own greatness. Whatever you may do for them, you must still feel that you are under obligations to them. You must never assert yourself, for they know it all, and you can only gratefully learn from them. They are everything, they represent pictorial photography, and you are merely some microscopical infusoria in their eye. If you are satisfied with the crumbs they may give you, to crouch at their feet in the attitude of beggars, who feel blessed if a little coin of recognition is dropped into their pitifully outstretched hand, well and good; but you must be prepared to bear the mockery and ridicule of your contemporaries, for there are still some sane people left, even in photographic circles. On the other hand, if there is one spark of self-reliance in your soul, if you feel that you also have accomplished something, that your love for art is as earnest as theirs, continue to admire them as artists if you must, but break away from their unbearable dictatorship.

Rouse yourself, stagger forth, even if you have to walk with the help of crutches at the start; it will be better than to dance to the tune of the little T. G. O. W. Try to see life and art from a different view-point, develop yourself independent of any clique, come to your own at last, and boldly proclaim it to the rest of the world.

There is no room for the patriarchal system in America's art, nor for autocrats, high priests, inquisitors, or wholesale conscriptions, condemning people without a hearing.

And you beginners, and men of minor talents, and you who have been kept back for years in your efforts, discouraged, ridiculed until you lost all belief in yourselves, simply because you could not see things as they did, and perhaps dared to have a saner comprehension of life and art than they, you need no longer be frightened out of your wits by their haughty demeanor, their merciless satire, and their incredible narrow-mindedness, for their rule is on the wane.

Stand up to a man, you pictorialists throughout the country; venture forth relying on your own strength; gaze no



Mrs. W. W. Pearce, Waukegan, Ill.

THE HOBBY HORSE.

longer at their golden poster sun, for it is the setting not the rising sun.

It will depend entirely on your manliness of spirit, on your artistic courage, whether the road to progress will still be clogged up to you or not.

Wheel away the little tin gods to the place where they belong, and with them all their self-conceit, their ridiculous pose, their long hair, big ties and clerical collars, their sham estheticism, their dismal tonalities, their red tape, and, above all, their contemptible, un-American policy. Juvenal.

Effingham, Ill., July 6, 1904.

My Dear Mr. Todd,— Enclosed find a copy of the endorsement of the Bissell College of Photoengraving, passed by the National Association of Photoengravers, which met at St. Louis last week. As you will readily understand, this assures a complete and grand success for the future of our school and our students. Will you kindly reproduce the endorsement in your next issue and greatly oblige us?

With best wishes and thanking you in advance for your kindness, we are,

Yours fraternally,
Illinois College of Photography,
Per L. H. Bissell, President.

HEADQUARTERS 1904
N. A. P. E. Convention Hall, Century Building, St. Louis, Mo., June 22, 1904.

The National Association of Photoengravers in our eighth annual convention assembled, do find after a careful and thorough investigation that the Bissel College of Photoengraving, located at Effingham, Illinois, and conducted in connection with the Illinois College of Photography, is an institution worthy of the hearty encouragement of this association.

We further find that the students attending this school are taught each and every department of photoengraving in a thorough and practical manner, whereas, in an engraving plant where the usual manner of apprenticeship prevails, the apprentices are restricted to a single branch of the work.

We further find that the school is well equipped and provided with competent instructors, and we do most heartily endorse the same, and recommend any one desiring to learn the art of photoengraving to take a course of instruction at this college.

We further agree to accept a certificate of graduation as sufficient recommendation for a position in our workrooms.

THE £1,000 KODAK COMPETITION.

A detailed report of the results of the £1,000 Kodak competition has been received in this country and the results can not but prove gratifying to those who take an interest in the advancement of American photography. There were something over 20,000 entries received, of which about 12,000 were from the British Isles, 2,500 from France, 2,000 from the United States, 1,700 from Germany and 2,000 scattering. The British Isles received 229 prizes, the United States 85 prizes, France 28 and Germany 12. It will thus be seen that the British exhibitors received one prize to every 52 entries, the French one to every 89, the German one to every 141 and the American one to every 23 entries. Our American amateurs, in proportion to their entries, carried off over twice as much as their British cousins, three and a half times as much as the French competitors and did six times as well as the German — at least such was the opinion of the British judges, who were no less personages than Sir William Abney, Mr. Craig Aman and Mr. Frank Sutcliffe.

In their awards the judges diverted some of the prizes in Class B of the Kodoid Competition and in both classes of the Developing Machine Competition to the N. C. Film and Kodoid sections.

We are informed that Kodak Limited will make a display of the best work at the Kodak Galleries, 40 Strand, continuing same for several weeks.

The Albany (N. Y.) Chamber of Commerce announces that under its auspices an amateur photographers' exhibit will be held in the large exhibition-room, 95 State street, from October 17 to 29, 1904. The prizes consists of two loving cups, a Goerz 5 by 7 lens for interiors, a 5 by 7 camera for exteriors, and a No. 3 Cartridge Kodak for best picture made by an amateur under sixteen. For particulars apply to William B. Jones, secretary, 95 State street, Albany New York, who will gladly answer all inquiries.

TWO POINTS OF VIEW.

The following letters almost speak for themselves. The first has been sent to most of the photographic journals in this country and abroad, but not to this magazine, presumably because its editor is an officer of the new federation which Mr. Stieglitz undoubtedly recognizes as a powerful rival to his pet association of outlandish title. It is not uncharitable to assume that he omitted this journal from his list because he considered its editor too one-sided to give publicity to a letter antagonistic to his point of view, and it is perfectly fair to assume that Mr. Stieglitz has measured others by his own measuring rod, and considers the editor of this journal to be constituted as an editor exactly like the editor of the one he edits. Now, the editor of this journal believes that free and open discussion never yet hurt anything that was worth preserving, and for that reason prints both sides.

Incidentally it may be remarked that neither Mr. Stieglitz nor the Photo-Secession were ever asked to have any connection with the Federation of American Photographic Societies, and also that a phrase like "such a type or character" is pure bombast that means nothing. What is the use of fighting on vague generalities? Why does he not get down to bed-rock and mention specific objections? Then the photographic world would know what he was trying to say. Swearing at large may give relief to the swearer, but affects nobody in particular. Swearing at some specific individual focuses the eye of the world upon that person, and at least gives some exhilaration to the bystanders. Kind Mr. Stieglitz, don't swear at *all;* provide some recreation for a dull world by swearing at only one.

THE PHOTO-SECESSION.

DEAR SIR,—As numbers of inquiries have reached me whether I personally, or the Photo-Secession as a body were interested or would be represented at the coming and much-advertised salon in New York, I feel myself compelled to thus publicly announce that the proposed exhibition will be of such a type or character that neither I nor the Photo-Secession can have any connection with it nor be represented therein.

By inserting this statement in your valued columns you will save me much annoyance and possibly render some of your readers a desired service. Yours truly,

ALFRED STIEGLITZ.

NEW YORK, August 15, 1904.
Editor PHOTO-BEACON, *Chicago, Ill.:*

DEAR SIR,—Kindly publish the following in your next issue:

THE FIRST AMERICAN PHOTOGRAPHIC SALON.

The person who has done more than any man living to injure the interests of photography in America is now engaged in the congenial task of insulting the entire photographic fraternity of America, outside of his own little clique of would-be monopolists, by a foolish slur upon the First American Photographic Salon, which is to be held in New York, Washington, Chicago, Boston and elsewhere during the coming season. We feel perfectly able to assure our friends that this salon will be of such a type or character that his organization will be unfit and unworthy to be connected with it in any way.

CURTIS BELL, *Chairman.*

Yours very truly,
S. C. BULLENKAMP,
Secretary.

OUR readers will be pleased to learn that the forthcoming edition of the "American Annual of Photography" for 1905 will be replete with handsome illustrations and articles of the highest merit on the pertinent subjects with which photography has busied itself during the year of 1904. The "American Annual" will be issued as usual in November, but as the edition this year will be several thousand copies less than the 1904 book it behooves the photographer and amateur to place his order early, so that he may not hear the only too frequent remark of late years, "all sold out." The publishers inform us that the "Annual" can be had of all dealers as heretofore. The American distributing agent is G. Gennert, 24 and 26 East Thirteenth street, New York, where dealers are asked to forward their orders as early as possible.

After months of work, with the sole idea of formulating a genuinely practicable plan of teaching thoroughly and successfully his system of "One Man Method" photography as practiced by him first in little towns, then larger ones, and finally on Fifth avenue, New York city during the past nine years, Mr. Milton Waide, of 164 Fifth avenue, New York, presents to those interested in photography — beginner, amateur or professional — a perfected plan of instruction including his entire method and business system, taught from afar at a very low tuition price. His plan of instruction includes five "proceedings" explained fully in a "Prospectus," mailed to any one upon request, which in itself contains valuable suggestions and half-tone illustrations of his novel print and mount effects, made by him under *his* light and by his pupils with *home window* illumination. The teaching puts into the pupil's hands *ideal negatives* for platinum and carbon effects on artificial light developing papers, prints therefrom in original mounting and folder effects, material to make trials with — in fact, it consists in a carefully devised plan of exchange, criticism and suggestion, by use of the mail and express as carriers back and forth, including business hints, devices used, general helps and aids, answering of questions, use of his copyrighted booklet for customers, etc.— his interest in the pupil's success not ceasing until he is satisfied that the "method" is *thoroughly mastered.*

Wilhelm Knapp, Halle a. S., Germany, has just issued a very handsome volume, 10 by 12, in which are reproduced about thirty of the pictures hung at the Paris Salon of 1903. The price is $1.25.

EDITORIAL TABLE.

From Bausch & Lomb Optical Company, Rochester, New York, we have received a copy of their semi-centennial catalogue, which is very different from any previously issued. Not long ago we were asked the catalogue price of two lenses made by this firm about ten years ago, but were unable to supply the information, as we could not find them listed anywhere. They are not to be found in this new catalogue, yet in their day they were considered to be achievements of the optician's skill. Just think, ye old-timers, of both a Clark and a certain Zeiss anastigmat lens being out of date, yet that is actually what has happened in but a few years. Very many new lenses have taken their place, and we would suggest that the best way to know all about them is to send for the catalogue.

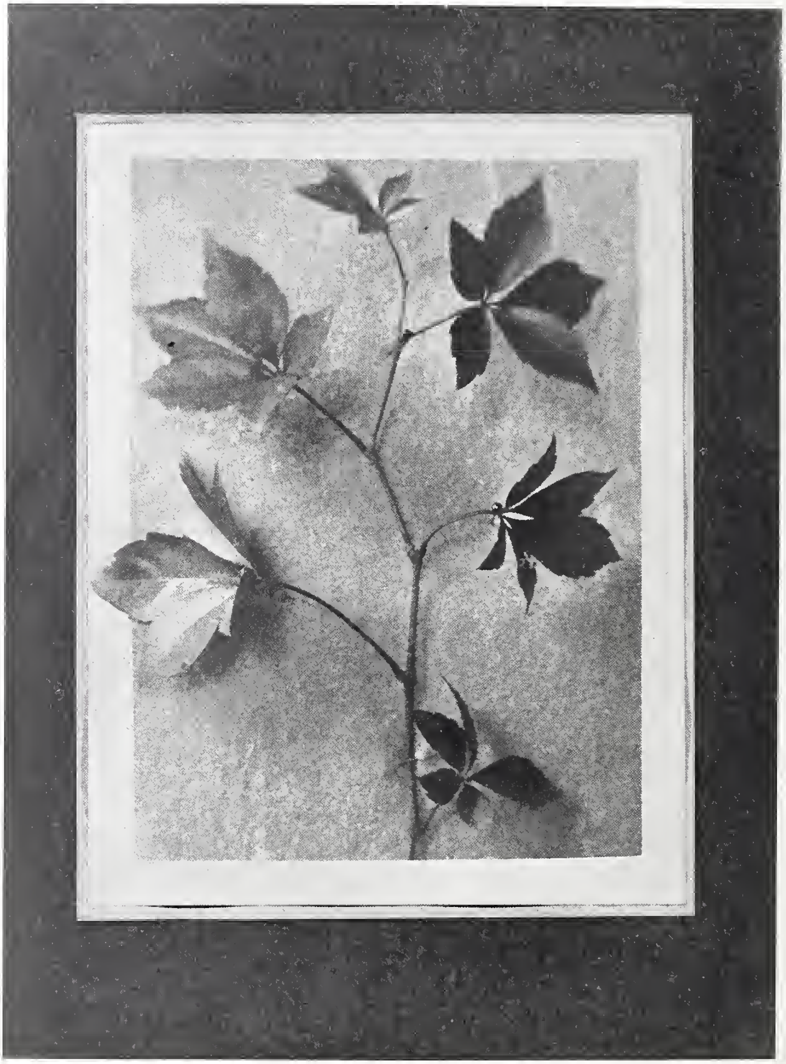
Burke & James, 118 West Jackson boulevard, Chicago, have issued their catalogue for 1904, which seems to contain almost everything that the average photographer — whether amateur or professional — can need. The firm has a well-deserved reputation for specialties, and on opening up the book the very first thing to catch our eye was a quart measuring jug, something we would have hailed with pleasure any time for the past six months, because again and again we wanted to make up that bulk of solution. One now reposes in our darkroom, duly bought and paid for in hard money. A little further on and our attention is held by "Ten in One" mats. We stop, for there comes before our eye a vision of two peach baskets full of curled negatives that refuse to lie flat. Once upon a time they were just as limp as one could desire, but successive winters with dry furnace heat has curled them more or less. Well, we secure a dozen mats and try them on some unimportant negatives and find they do capitally. The peach baskets will soon be relegated to the basement, and their place be taken by a compact file. These instances are sufficient to show how good are many of the articles mentioned in the catalogue.

THE PHOTO-BEACON.
AN ILLUSTRATED PHOTOGRAPHIC JOURNAL
Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All communications relating to The Photo-Beacon should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621 Broadway, New York.



James Thomson, FIRST PRIZE. Boston, Mass.

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 908 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XVI. OCTOBER, 1904. NO. 10.

THE LATE JAMES INGLIS.

Very rarely do I feel justified in taking up space by printing any notice of the death of some one of note in the photographic world, but I feel I can not permit the passing away of such a good friend to photographers as James Inglis without a brief notice.

We became acquainted in the fall of 1892, and after a few minutes' conversation I realized the bigness of the man, but our friendship ripened slowly, and it was not until a few years later that we got into the close intimacy that lasted until the day of his death. To many he was a big puzzle, but to me he was an open book simply because, as a fellow countryman, I had met many of his type of mind, though few were so big. Logically and theologically, he was of the type that made the Scotch covenanters of the sixteenth century, and once he accepted any premises he was so constituted that he followed every conclusion to the limit without fear of the consequences to himself or anybody else. Herein lay his greatest power, but it was also his greatest weakness. Possessed of an acute logical brain that I have never seen equaled, he lacked the training of the schools that would have defended him from fallacies, so frequently basing his arguments on false premises, he arrived at conclusions that were hurtful to him financially. On the other hand, when his position was right he was just as big a success, but viewed in the eyes of the world, where the dollar is the measure of all effort, he was apt to be called a failure, for his mental attitude was decidedly altruistic, to his own financial hurt.

His physical energy was just as pronounced as his mental, and the last time he was in my office I could not help remarking that if I should be fated to attain his age of sixty-nine would I be as physically active and as mentally acute as he was, for in everything he looked more like a man of forty.

He was born in Scotland in 1835, emigrating with his family to Canada at the age of seventeen. For three years he hewed down trees in the backwoods, developing to the full his naturally gigantic frame. Becoming interested in photography, it may be said that he ran the whole gamut. His earliest success was in Montreal, where he made many pictures of the combination type that are marvels to-day, for I have never seen them equaled. Getting interested in dry plates in the early eighties, he entered upon the experimental stage with his usual whole-souled energy, and, like many more of that time, with disastrous financial results. He gravitated to Rochester, where he founded the Inglis Dry Plate Company, and entered with enthusiasm into their manufacture. Those were troublous times in the photographic world, where a cool head was essential to financial success. Gelatin is a very uncertain substance even in the present day, as plate and paper manufacturers well know, and in those days it was more so, and many a promising business was ruined by an unsuitable brand of gelatin, and, unfortunately, the cause was rarely suspected. Then the wet plate was emphatically slow, while it was so easy to make dry plates that were decidedly faster. Photographers would persist in overexposing, and many a good emulsion was wasted because photographers could not get out of their old ways. With his usual habit of going to the limit, James Inglis twenty years ago made dry plates as fast as are on the market to-day, but they proved his financial ruin. He never could understand that market standard is good enough, that anything decidedly better was more apt to be a financial failure than a success.

His untimely death was due to this failing of his to want to get the best possible. In 1896, when he was teaching me the principles of his idea of good portrait lighting, I performed my home experiments with flashlight, and he became enthusiastic over the results. A year ago he turned his attention to "at home" portraiture by flashlight, and, true to his old instinct, set out to make improvements. First, he designed a flash-lamp in which the smoke is caught in a bag, so that it can not escape into the room. It is a very simple, effective contrivance that is bound to meet with great favor among professional photographers, and had he stopped here everything might have been all right. But the improving tendency turned him on to the flashlight mixture, much to my dismay. He had decided in his mind that it must be possible to make a first-class portrait with less than five grains of powder, and he proceeded to prove his case, by doing it with only two. Knowing the nature of the man and the character of the compound, I urged him to leave the whole thing absolutely alone, but, I regret to say, without success. The best person to make a flashlight mixture is one of naturally slow habit. James Inglis was not built that way, so one day he got tired of slow monotony, moved the mixer considerably faster — and was picked up for dead.

He made a magnificent fight for life. His injuries were frightful, but his grand constitution seemed to stand the strain, and at the end of a month every one was hopeful of a good recovery. But pneumonia set in, and on September 18 he died.

We were intimate friends for a dozen years. We agreed on but a few points, but an unkind word never passed between us. I am indebted to him for much, for his articles on "Artistic Lighting" first drew this journal into prominence. Strange enough, the third edition of his book was sold out the day before he died. He was a man of ideas, and these were always debatable, but he rarely discussed people. He was willing to lend a helping hand wherever he could, and never asked one in return. Photographers owe him much, for the artistic movement now so pronounced among professionals got its start from him, and he used often to say that he felt he had repaid in some measure all that he had learned from others.

F. Dundas Todd.

RED TONES.

Having occasion to print a number of small, rather dainty portraits on matt P. O. P. recently, I grew weary of the normal purple-brown and reddish-brown colors obtained by gold toning, and also the blacks and grays of platinum toning. After some experimenting, I succeeded in getting a fairly uniform red color, almost exactly similar to the red chalk pigment in carbon printing. Here is the formula:

Ordinary salt	80 grains
Powdered alum	100 grains
Chloroplatinite of potassium	2 grains
Water	10 grains

The prints, being first washed in the usual way, were "toned" in the above bath for three or four minutes, thence removed before more than a slight change in color had taken place. After a short washing in water, they were fixed in hyposulphite of soda solution, about half the usual fixing-bath strength, and allowed to remain in the hypo bath for fully twenty minutes, then washed and dried.

PICTORIAL COMPETITION No. 76.

Last month I spoke of the high standard of the work submitted in the Genre Competition, also the great difficulty the judges had in making a decision. This month apparently was even a more difficult task, for the most indifferent print submitted would have easily been a prize-winner a couple of years ago. My readers can not appreciate how disappointed I have been with the branch of a tree competitions for years, but now I am reaping the reward that comes from perseverance. I have long held and still hold that floral and tree studies do more to teach photographers the great principles of composition than any other subjects.

Paul R. Morrison, Catskill, N. Y.

SECOND PRIZE.

The following are the awards:

First prize — James Thomson, 2 Mascoma street, Roxbury, Massachusetts.

Second prize — Paul R. Morrison, Catskill, New York.

Third prize — W. H. Porterfield, 100 Lakeview avenue, Buffalo, New York.

HONORABLE MENTION.

S. S. Lloyd, G. E. Keller, E. H. Royce, John Moser.

My remarks this month must be brief, as this is written as I am getting ready to go to St. Louis, with very much to do. I was much interested to listen to the judges debating as to what constituted "a branch of a tree with leaves" picture, because no less than three of the competitors were from one city, and one and all appear to be working on the line of broad effects, with of course detrimental results so far as detail is concerned, in fact, with two of them it would be impossible to tell from what kind of a tree the branches were taken. The judges decided that extremes were out of place in this competition and stood for at least a reasonable amount of detail.

PHOTOGRAPHERS' ASSOCIATION OF NORTH AMERICA.

This association differs in the experience of the secretary from that of all other associations of like nature in this, that his work is daily, not all concentrated into a spurt some time before and during the annual meeting. I find it takes me just three to four hours every day to attend to the correspondence alone and out of it I am getting much experience.

I fancy many people think all I do is to receive applications and grant certificates. It does not happen that way at all. Here is the procedure. An employe applies for a certificate, and on his application he names all his employers for two years at least. To each of these is sent a form, asking their estimate of him as a workman, and then if their report is satisfactory, the certificate is granted. I was a little anxious at first as to this phase of the procedure, because its success or failure depended entirely upon how the past employers viewed the matter. But I am glad to say that every inquiry I have sent out up to date has been returned promptly, and answered with discretion. This is proved by the fact that practically all replies regarding any one man agree in detail, and personally I hold such a consensus of opinion as being good data for estimating a man's competency.

Many people seem to think that every owner of a gallery who applies will be certain to get a diploma, but that is not so by any means. Excluding the organizers, all of whom are known competent workers, our experience is that the Board of Examiners refuse one applicant out of three, and remember the standard at present is a purely technical one. The principal defect shown in the work so far is under-exposure usually accompanied by forced development to the detriment of the high lights, and, of course, accompanied by black shadows. All of those refused diplomas get plain statements of their faults, accompanied by a request to come again soon at no extra expense to them. What the association is working for is to increase the number of competent workers and to help such individuals as are trying to improve.

A very remarkable condition of affairs is shown by the work of the employment bureau. About sixty per cent of those applying for positions are at present or were recently owners of galleries, and this indicates to me very decidedly that business all over must be very quiet, as the applications range from Long Island in the East to Iowa in the West and from Wisconsin to Louisiana.

I wish I could print some of the letters that come my way. Many years ago I had a photographer pointed out to me by a Chicago stock-house dealer as a man who had got ahead of practically every supply house from New York to San Francisco, getting the best of them to the tune of several thousand dollars. I think I have got track of his successor in a photographer out West, who, in a few months, cleaned up a community in great shape through the ticket racket, and has at least three stock-houses lamenting their faith in him to the tune of over $400. Some day he will drop in suddenly upon some other community, and, as in the town I speak of, will ruin the photographers' trade there for at least a year to come. Such a man is a moral leper who should be driven into a corner and held there, but half a dozen men can not do it.

The average man can surely see from the few experiences given above how great a need there is for organization among photographers, so that the good, honest workman may be protected from incompetent or dishonest individuals.

F. Dundas Todd.

TEST FOR HYPO.

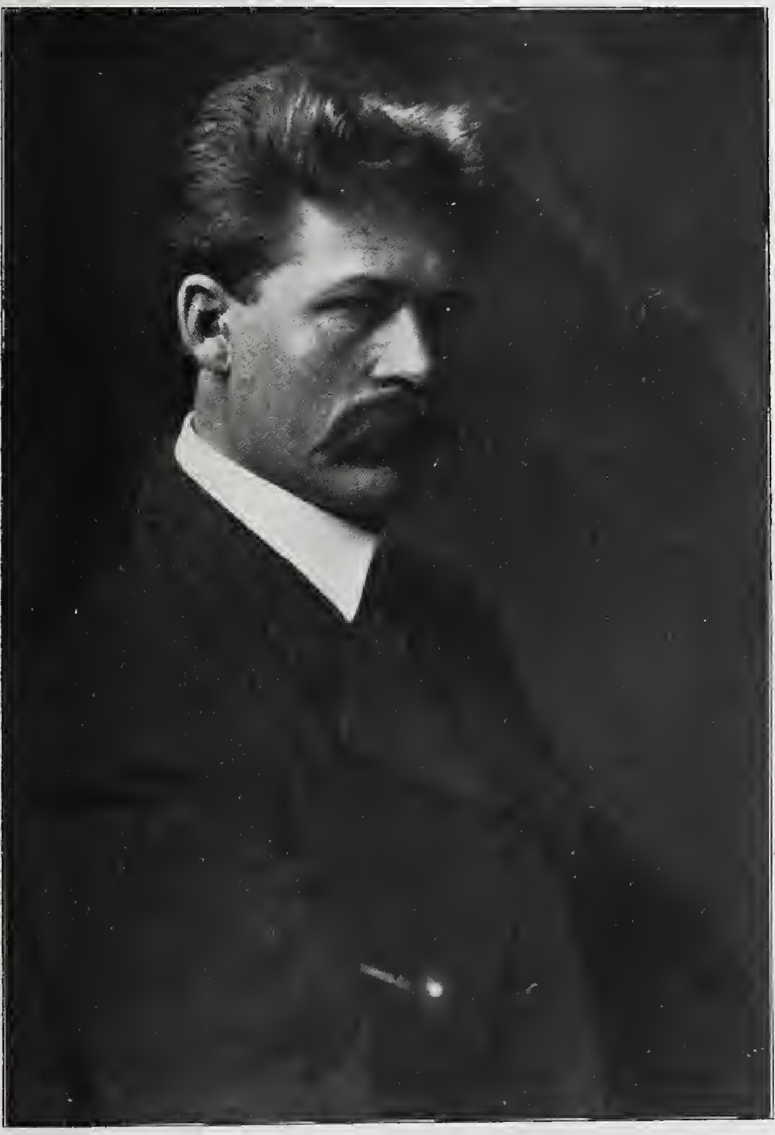
Potassium permanganate .	2 grains
Potassium carbonate	20 grains
Distilled water...........	40 ounces

This forms a rose-colored solution. To test the negatives, take one out of the washer and let the water drain from it into a test tube. Then add a drop or two of the test solution. If no discoloration occurs, no hypo is present. If the solution turns greenish, the negatives are not sufficiently washed.

PROFESSIONAL PORTRAIT COMPETITION No. 8.

At the very outset I have to apologize to a number of unknown photographers. Ordinarily I tackle the work of this competition on the first day of the month, but on this occasion I am doing it three days ahead of time, as I have to report on the first of September at the World's Fair, St. Louis, where I am to act as one of the jurors. Such being the circumstances I think I will be forgiven by those who time their prints to arrive at my office on the last day of August, besides these will come under scrutiny on the first of October.

After I had made my selection in this competition, I had a call from a Chicago amateur who has frequently been represented in Salons with portrait work,



FIRST PRIZE.

so I mixed all the photographs together and asked him to pick out the prize-winners. He faced the ordeal rather unwillingly, but he obeyed orders, and it may interest the readers to know that his decision was the same as my own. I rather like doing this kind of thing, just to keep tab on myself to see whether or not my brain is working in the usual way and is not developing a freak way of looking at things.

The first prize-winner is by the photographer who was equally successful last month, and since names are being called for I may as well say that he is J. Barry, Thief River Falls, Minnesota. I have been in touch with his work for many years, as every few months he would send me a few prints for my criticism and I can assure my readers he has made great strides since I first saw his work. He could take a good straight talk and get good out of it, the result is now being seen.

There is nothing startlingly radical about this picture, it is just the kind of pose and lighting that would be marketable anywhere. What chiefly appeals to me in it is the richness of the tonal qualities which are evident everywhere, but since the print is a dark brown sepia, I am afraid this very quality will be miserably reproduced. I admire the gradation everywhere, even the white collar in the original is full of this subtle gradation and so is the dark of the coat in the distance.

The lighting of the face is not the simplest that could be chosen by any means, because being well from the side it cast the farther half into very deep shadow, in fact, with the average worker it would be a perfect blank, but in this portrait it is all rendered in due relation. The attitude indicates to me a strong man in repose. The face indicates a young man of vigor, who can be as masterful in inactivity as in activity, and I think this is the idea Mr. Barry tried to express.

The spacing seems to fit the idea, the only thing I do not like is the series of three parallel lines of coat sleeve and breast, but that is a very minor point.

The second prize falls to Mr. Berkemann, Perry, Iowa, who has won a number of first and second prizes already. In the past he has sent in mostly grown-up people, but this is the first time he has submitted a child picture. Rarely have I seen so evenly balanced a temperament indicated in so young a person, where the eyes look out so calm and serene on a puzzling world, as if the individual had solved without any difficulty all the knotty problems of life and knew instinctively what to do in any given condition. I do not think Mr. Berkemann fully grasped the great possibilities in front of his lens, for the draping of the figure, or rather the lack of it, is entirely out of harmony with the massive face above, and so I take the liberty of trimming of the parts that to me are objectionable. Technically the work is very fine.

The maker of the third-prize picture has been a consistent competitor since the start, but this is the first time he has got inside the charmed circle. All along he has shown that he possessed ideas, but was rather crude in the expression of them. At one time he ran to tarry effects without gradation, now he rushes to the opposite extreme, but I am glad to say he has made big advance in tone quality. I do not like the vignetter used in front of the lens, this effect of floating on clouds, because it is positively impossible for one to carry out a scheme of spacing when using it. The general effect is a very dainty bit of tone work, and I must confess I rather admire the courage of a photographer who had the temerity to throw the face into the darkest shadow, and yet retain the character of the whole figure.

The general effect of the other prints submitted is, to my mind, below the average, and so I will content myself with brief remarks about a few of them only.

Runyon.— General effect is too flat.

Barmise.— Bitingly sharp. Technically good, but no conception of tone.

Selley.—Very flat in lighting, and too formal in arrangement.

Benson.— Print is far too small for size of head.

Osborn.—A finely lit head, but your

work is at just the same high-water mark as when I saw it half a dozen years ago. You had made a big advance then in a few months, why not make a new spurt?

Richter.— You seem to have some rather good but vague notions. Waken up and make an effort to do something. You lack confidence in yourself.

Copyright, 1904. by N. Brock, Asheville, N. C.

YOUNG BACCHUS.

Pleas.— The baby is alive, but everything suggests a funeral: coffin-black mount, black background, black back of chair, baby's face very black, white drapery also dark.

SOME PERTINENT QUESTIONS.

Gladwin, Mich., May 7, 1904.

F. Dundas Todd:

Dear Sir,— I send you print under separate cover, for criticism under portrait competition.

I like your criticisms, but would like your reasons for some of them. For instance, in May, page 138, you speak of the lines in a portrait being right and wrong. Now, there is not one in a dozen photographers that knows right from wrong in line. Again, what makes a face "stand out" when it should "stand back"?

Nearly every photographer used a vignetter in front of the lens; why should it not be done?

If carbon and sepia, etc., are hard to reproduce, why not have one print on paper that will reproduce, that we may be the more able to see and study your criticisms.

The most of us are photographers, not artists, and common, every-day ones at that, and it seems to me that we should all join in helping as much as possible to make this one feature at least a success.

Should like to "brush up" on posing and lighting. Where can I obtain the books.

Yours respectfully,
W. H. SHERBINO.

The above letter reached me in the month of May, but somehow got overlooked. Better late than never, however, and so I proceed to answer it, since it goes right to the point in every question asked, and most important points they are.

First as to line. All figures are supposed to be bounded by lines, and a very good illustration of this is to be found in Mr. Brock's "Young Bacchus" reproduced in this issue. For instance, at the top of the head we find a very definite line starting at the hand, running along the arm as far as the armpit, then along the chest until the margin of the print is reached. Then lines run from the left hand, along the arm to the trunk, then continued upward to the top of the head, and downward past the chest to the edge of the paper. There are other lines, but we will consider only these.

Now lines may be of almost any character — straight, curved, crooked, jagged, mixed — that is, both straight, curved, etc., and so on. In making a picture the photographer, like the artist, has to decide what kind of lines will best convey the idea he desires to express. If he wishes to convey the conception of austerity, straight lines are essential, but if grace and freedom, then curved lines are the better. Bacchus was the god of good living, and everybody knows how his devotees look. No angular lines or sharp points about their frames, but everywhere plumpness and roundness. No one would ever dream of photographing a scrawny individual as a specimen of good living and easy thinking.

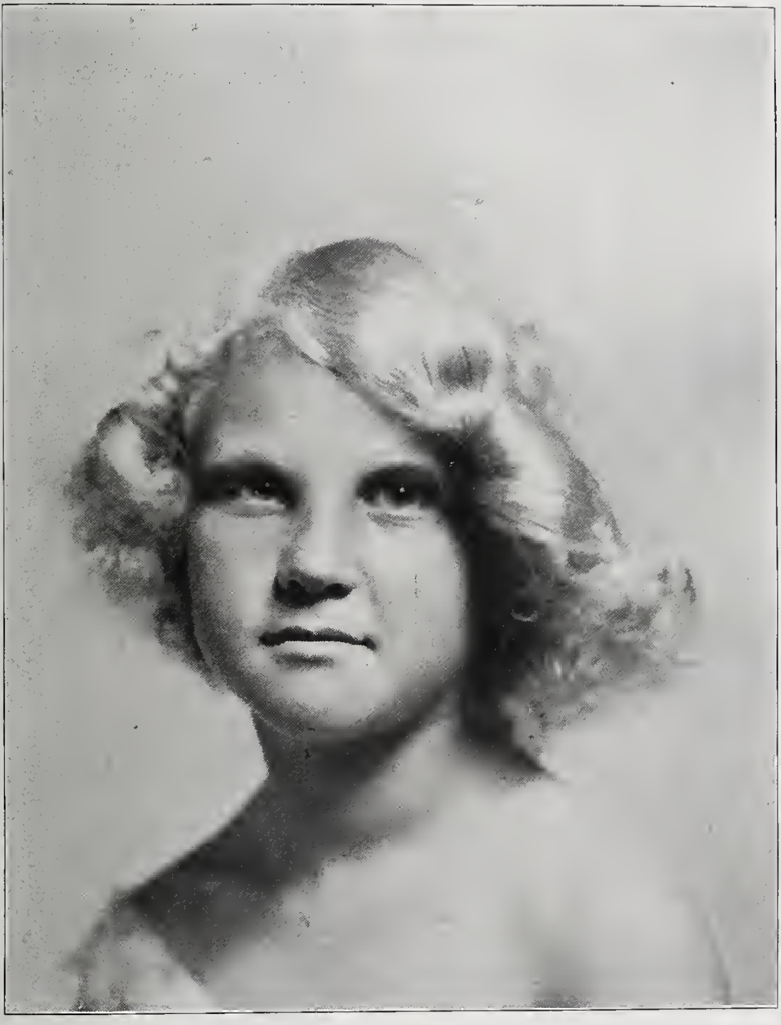
Any one can see then that Mr. Brock, while working out his idea, realized all these points, and so selected a plump, care-free child, then he posed him in such a way that every line is a free-flowing curve. Look at the arms, for instance, and note the curves on each, not uniform, monotonous curves, but delicately varied ones; see how they run smoothly into the other curves of the trunk. I could expatiate on this at length, but I think I have said enough to show how important line is, and I regret to say that but few photographers realize its value. In fact, I would have difficulty in naming a dozen men in the ranks of the profession whose work shows they ever see line.

What makes a face "stand out" or "stand back"? Lines and tone. Tone is the relationship of the masses to each other. Here again the average photographer is an especial sinner, for his use of a background is haphazard. I am fast coming to the conclusion that more brains are needed in handling the background than any other thing in making a successful portrait, because it is the keynote of the tone values. Its use is dependent on natural and cultivated taste, but as a starter I would suggest that in case of doubt the photographer is wise who will use one that is middle in value between the face and the drapery. Therefore a black background is entirely out of place in making a portrait of a subject in white drapery and especially young children. My pet detestation is the dark ground with a big, white, meaningless spot. A dozen years ago Mr. Steffens, of Chicago, used with great skill such a background, and immediately every photographer invested in one to get Steffens' effects. They did not, but instead got results and still get them that make me feel like saying things. Mr. Photographer, before you put a certain background behind the sitter ask why you are doing it, and if you can not clearly answer yourself, do not use it. Referring once more to Mr. Brock's picture, please note how the lines carry the eye in.

I detest the vignetter in front of the lens, because it means nothing. That is a good enough reason. But to be more explicit. I often refer to spacing, and the tying of the lines to the margin of the print. The vignetter simply renders good spacing and tying impossible.

About reproductions. They make my life a burden. At the very best they are inferior to the original, simply because one can not get more than about five tones by the ordinary half-tone process. A pure white and a pure black is impossible, so any one can see the point at once. When to these limitations one adds warm colored prints, like sepia, then the difficulties are increased tenfold. I have tried getting ordinary black and white prints where the prize-winner was a sepia, but I think it was even worse, because the fine tone value depended so much on the red or brown color. Take this print of Mr. Brock's, which is a beautiful sepia and full of fine gradation, and I know it will be in the reproduction very inferior to the original, but I also know a black and white print would be even worse.

F. Dundas Todd.



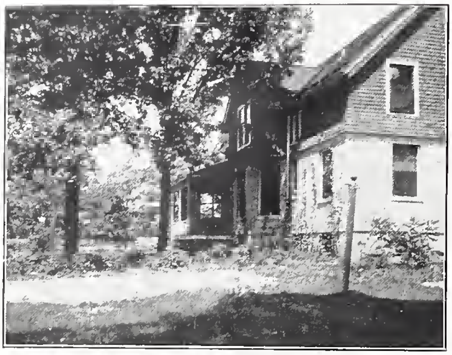
SECOND PRIZE.

DEVELOPMENT — SCIENTIFIC AND PRACTICAL.

CHAPTER II.

Gallons of ink and reams of paper have been used to describe how to develop overexposed plates. The reader is advised to add a pinch of this, use a little less of that, pass from one bath to another, and altogether hang for hours over such a plate in order to save it, but above all use brains in mixing the developer and in using it.

Just to see what happens, I will apparently leave brains out of the question and develop just as my own thirteen-year-old boy would do, so I proceed to the darkroom and make up the following formula:

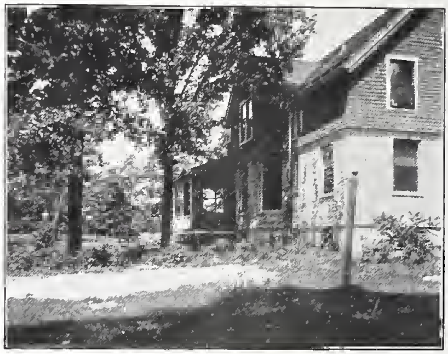


1. Correct Exposure.
Developed 3 min. 20 sec.

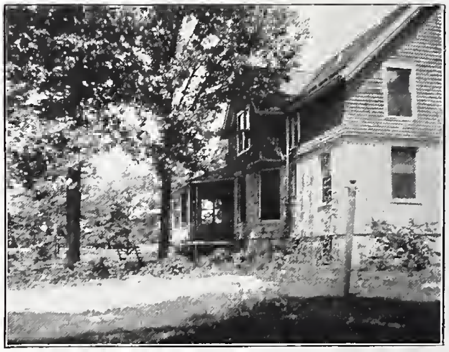
Pyro (Schering's)	5 grains
Sodium sulphite (Seed's)	10 grains
Sodium carbonate (Seed's)	10 grains
Water	1 ounce

This I have been in the habit of using at a temperature of 65°, the exact degree being ascertained by keeping all solutions in one water bath, while the tray floats in another. But the weather is warm, and the thermometer in my darkroom stands at 68°, while the water I have drawn from the tap some days previously registers the same. At 65° this developer gives a first-class landscape negative in exactly four minutes, but the higher temperature will I know make it work considerably faster, so I decide to use the Watkins system in developing the correctly exposed plate, and give the rest the same time.

Everything being ready I take a large tray, put in the five plates of the first series, that is to say, exposures running from correct to sixteen times overexposure, then I pour over them plenty of developer to make certain of covering the plates, press the stop watch, and await results. The instant the longest exposure appears the time is noted, also that of the shortest, and I find only a matter of about five seconds between them—a point by the way worth noticing, that doubling the exposure hastens the appearance by about one second only. In developing our next set of exposures we will use this fact, but in the meantime we have enough to do in

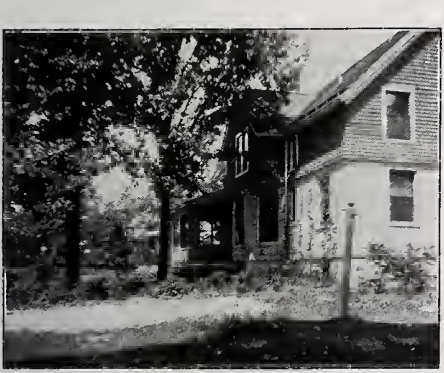


3. Two Times Exposure.
Developed 3 min. 20 sec.



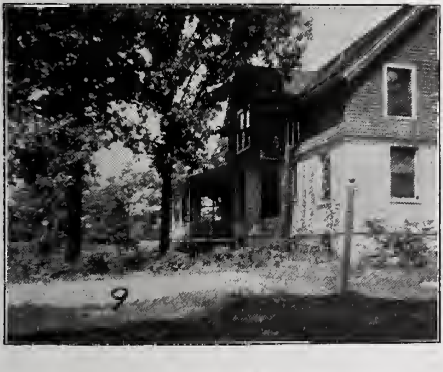
5. Four Times Exposure.
Developed 3 min. 20 sec.

attending to those now in the tray. Much experience has taught me that this particular developer and subject needs a factor of ten according to the Watkins system, and a quick calculation fixes the whole time in the bath at three minutes and twenty seconds; that is, raising the temperature of the developer by three degrees has shortened the development time by forty seconds, or one-sixth of the total time.



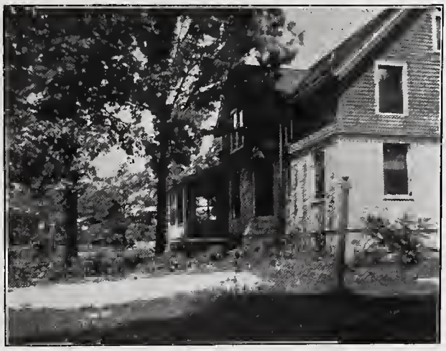
7. Eight Times Exposure.
Developed 3 min. 20 sec.

All this time the dish has been kept practically in darkness, for I do not want to complicate matters by getting a little light fog, so, until the time is up, I never look at the plates, simply giving them an occasional rock. A few seconds before stopping time I pour off the developer, and the instant the second hand is at the limit I pour on water, run it off and give a second supply. Then as quickly as I can I transfer all the plates to the fixing bath, beginning with the shortest exposed one, so that any additional development might be on those that are overexposed.



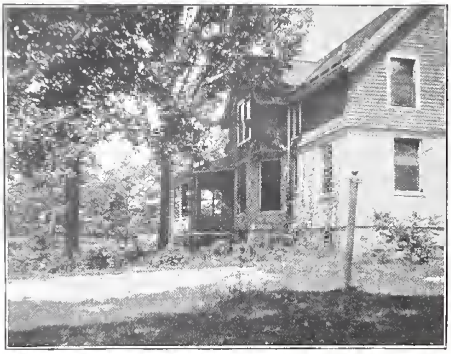
9. Sixteen Times Exposure.
Developed 3 min. 20 sec.

We will now proceed to handle the second series in a different way, by developing them all according to the Watkins system. We saw that practically one second elapsed between the appearance of the different exposures, and since the factor for this developer is ten, it is evident that each plate should be developed for ten seconds less time than the one with half its exposure. A little simple figuring shows then that the plates should come out of the bath at the following times: Correct exposure 3.20, double exposure 3.10, four times exposure 3.00, eight times exposure 2.50, six times exposure 2.40. So the second series are all placed in the tray, the developer poured on, the stop watch started and patience exercised until 2.35, when the longest exposure is taken out, and at 2.40 is put for a second under the water tap, then into the hypo. Fingers have to be rather nimble for the next half minute, but on the dot plate after plate goes under the water tap, thence into the fixing bath until all are there.



4. Two Times Exposure.
Developed 3 min. 10 sec.

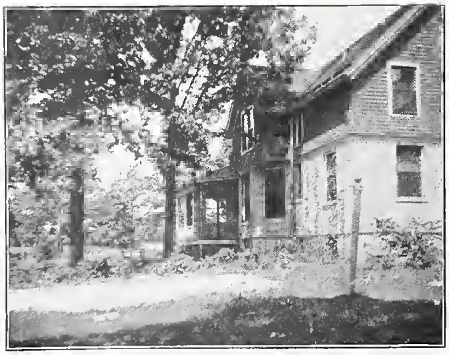
Now let us stop a minute and see what we have got. Working under very careful conditions as to time, temperature and developer of uniform



6. Four Times Exposure.
Developed 3 min.

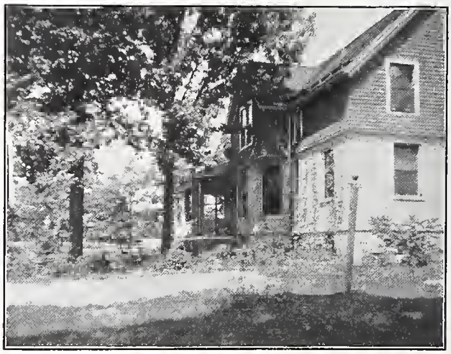
strength we have two series of exposures running from correct, at least, to sixteen times over. One, plates numbered 1, 3, 5, 7, 9, has been developed exactly alike; the other, plates numbered 2, 4, 6, 8, 10, has been varied by shortening the time of development by a number of seconds equal to the Watkins multiplying factor for every doubling of the correct exposure. Once the plates are washed and dried we will have a good look at them and then we will make a good set of prints from them all and see how they look.

Well, like my amateur friend I spoke of, most people would be surprised to find they were all negatives. Numbers 1 and 2, those correctly exposed, look first rate, not a bit of clear glass anywhere, excepting the part protected by the rabbet edge. Nos. 3 and 4 very much resemble each other and Nos. 1 and 2, Nos. 5 and 6 look more opaque, otherwise not much difference is evident. No. 7 is decidedly opaque, but No. 8 is not much darker than No. 5. No. 9 is very black, but No. 10 looks a fair negative.



8. Eight Times Exposure.
Developed 2 min. 50 sec.

Now let us get a set of prints on some glossy printing-out paper — glossy because it will show the detail, printing out so that the results can not be modified by varying the exposures as is possible with gaslight papers. And in passing, let me remark such a paper is supposed to be specially suited for thin negatives, whereas some in our set are very dense. In making the prints we find a decided difference in the time necessary to secure a good result. No. 1, the correct exposure, is finished in a few minutes, whereas No. 9, sixteen times overexposure and full development, takes about two hours in the direct rays of a July noonday sun, and, of course, the others vary according to the density of the negative. We will suppose the prints are finished and they are all spread out before us on a table, then, according to much that has been written about the art of development, it should be a very easy task to arrange them according to the length of exposure the plates received and the duration of time they were allowed to remain in the developer. But curiously enough, I find this is just what nobody can do. My callers at the office wrestle in turn with the problem, and I find



10. Sixteen Times Exposure.
Developed 2 min. 40 sec.

they are just as apt to call the much overexposed print the correct one as to choose the latter. I wish I could place every print before my readers, but seeing this is impossible I do the best I can by showing reproductions, but it must be remembered that with these we introduce the human equation because they must be photographed, printed on the copper, etched and made ready on the printing-press, in all of which operations there is great likelihood of modification by the operator in the way of over and under exposure, development, printing, etching and overlaying.

DEDUCTIONS DERIVED FROM THE FACTORIAL SYSTEM.

There is practically no difference in the power of one developer against another for building up density, searching out detail, and ultimate gradation. One may take much longer than another in arriving at that end, and the appearance of the negatives produced by the two, when compared, may be very different; one negative may require longer time in the printing frame than the other; but the resulting prints will be the same.

The energy, or working speeds, vary enormously. Of two developers, producing first appearance of the same subject and exposure simultaneously, one may take three minutes to complete development, the other half an hour.

The same results may be obtained in a strong solution or a weak (diluted) one; therefore, there can be no advantage, as affecting the printing qualities of the negative, by employing the "stand" method often advocated for underexposure.

Varying the proportion of alkali (accelerator) does not affect the resulting image, except that an excess is liable to produce fog.

After the point at which the maximum density has been attained in the highest lights, the building up of contrast ceases; and if development is continued further, contrasts are gradually reduced, in consequence of the next lower steps in density gradation acquiring maximum density.

ORTOL: ITS ADAPTABILITY TO PROFESSIONAL USES AND GENERAL APPLICATION.

Among the new developers that have stood the test of time and have substantiated the claims made for them by many prominent workers, Ortol has proven a particular favorite. By the great class of professional and amateur photographers who, accustomed to the handling of Pyro, were eagerly awaiting the arrival of a substitute that would possess most of its unarguable characteristics without its inconvenience and that could be used by them without that wearisome necessity of studying for weeks a new system of development, Ortol was hailed with delight. As long ago as 1899 so conservative a man as W. D. Welford expressed himself as follows in the *British Journal of Photography:* "As a user and believer for many years in that reagent (Pyro) far be it from me to cast even a shadow of suspicion upon its virtues, and I confess that, up to the present, not one of the developers introduced since Pyro has been equal to it as an all-round, first-class developing agent. Minor advantages have been gained, there can be no cavilling at this statement: skirmishes have been successful, but when the main battle has come off, Pyro has always won.

"I make the assertion that if any developer will shake Pyro to its foundations, it is Ortol. It is no use saying that it will take the place of the other, because there are many professionals who will never change, but I'll guarantee that if Ortol be given a three months' earnest trial, spread over all classes of work, the dear old Pyro bottle will quickly find its way to Stevens."

This extract has been given in extenso because it expresses very well the general consensus of opinion obtaining among our best supporters of Pyrogallic development, such as Prof. H. C. Bothamley, Prof. M. W. Vogel, Schnauss, Pizighelli, J. Gaedicke, Andrew Pringle, Professor Stolze and others.

Ortol is chemical combination of 1 molecule 1.4 dioxybenzol with 2 molecules Ortho-methyl-amido-phenol-sulphate. The latter salt is by itself a very fine developer, giving negatives of exquisite delicate gradation but lacking generally in density. The possibility of combining it chemically with a substance of great covering power like 1.4 dioxybenzol (hydroquinone) or 1.2 dioxybenzol (Pyrocatechin) enabled Doctor Anderson and J. Hauff to produce a developer admirably balanced in its chemical composition and adapted to the widest range of work. As with Pyro, the image of an Ortol-developed negative appears step by step and gains steadily in density; the progress of development can be easily regulated, hastened or slackened, following exactly the same principles and the same methods as with Pyro development, the only difference is that Ortol has taken the place of Pyro in the formula. Unlike Pyro, however, it can be usefully made up as a single solution, can be used several times over, is excellent for gaslight and for bromid papers alike; for transparencies and for lantern-slides as well. It does not stain plate, paper or fingers even when old and has excellent keeping quality. The color of the negative can be regulated at will between black and brown; the rendering of tone values is perfect. The speed of development is slightly greater than that obtainable with Pyro, slower than that of Metol. It is readily amenable to the action of bromid of potassium or other restrainer, including the physical restrainers, such as cold temperature of the bath, colloids, sugar, etc., and in consequence it is extremely elastic and able to compensate great excesses of exposure. It is also excellent for tank development on account of its keeping and non-staining qualities. Finally, it should be mentioned that below 70° F. frilling is practically unknown with this developer, as it exercises a decided tanning action on the gelatin.

Doctor Eder, who made extensive experiments on the comparative behavior of the different developing substances, speaks very highly of the adapt-

Degrees Scheiner Light dist. 33 1-3 M. Exposure 1 minute.	TEMPERATURE.															
	0 Deg. Celsius. 32 Fahr.				10 Deg. Celsius. 50 Fahr.				18 Deg. Celsius. 64.4 Fahr.				25 Deg. Celsius. 77 Fahr.			
	Length of exposure in minutes.				Length of exposure in minutes.				Length of exposure in minutes.				Length of exposure in minutes.			
	2½	5	7½	10	2½	5	7½	10	2½	5	7½	10	2½	5	7½	10
18	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
17	....	....	....	....	....	....	....	....	....	....	....	0.70	....	0.49	0.82	....
16	....	....	....	....	....	....	....	....	....	0.41	0.54	0.72	....	0.52	0.84	....
15	....	....	....	....	....	....	....	....	0.30	0.47	0.60	0.76	0.41	0.57	0.87	1.07
14	....	....	....	0.28	....	....	....	....	0.33	0.51	0.66	0.83	0.43	0.60	0.88	1.13
13	....	....	0.29	0.29	....	....	0.32	....	0.37	0.60	0.73	0.87	0.49	0.64	0.94	1.17
12	....	0.30	0.32	0.32	0.26	0.32	0.37	0.32	0.42	0.69	0.83	0.95	0.55	0.67	1.04	1.23
11	....	0.32	0.36	0.37	0.27	0.37	0.45	0.37	0.49	0.80	0.94	1.15	0.65	0.74	1.13	1.33
10	0.33	0.37	0.39	0.43	0.33	0.45	0.55	0.43	0.60	1.00	1.15	1.37	0.73	0.85	1.28	1.40
9	0.35	0.41	0.46	0.49	0.37	0.55	0.67	0.55	0.73	1.21	1.37	1.70	0.83	0.95	1.43	1.50
8	0.37	0.47	0.52	0.61	0.45	0.65	0.79	0.69	0.85	1.46	1.63	1.90	0.90	1.15	1.66	1.82
7	0.40	0.55	0.63	0.72	0.53	0.76	0.90	0.85	0.99	1.72	1.89	2.15	1.05	1.36	1.90	2.18
6	0.43	0.60	0.77	0.84	0.61	0.85	1.09	1.00	1.15	1.95	2.56	2.45	1.25	1.55	2.15	2.50
5	0.47	0.67	0.80	1.00	0.70	0.95	1.34	1.26	1.37	2.20	3.00	2.80	1.37	1.86	2.60	3.00
4	0.52	0.76	0.88	1.13	0.77	1.12	1.55	1.54	1.55	2.60	....	....	1.54	2.03	2.97	....
3	0.56	0.84	0.99	1.30	0.85	1.30	1.77	1.75	1.76	3.00	....	....	1.70	2.13	....	....
2	0.60	0.88	1.09	1.49	0.91	1.41	1.95	1.94	1.94	....	....	....	1.87	2.65	....	....
1	0.63	0.98	1.23	1.75	1.00	1.73	2.17	2.25	2.10	....	....	....	2.02	3.00	....	....
A	0.65	1.07	1.29	1.89	1.08	1.75	2.44	2.53	2.25	....	....	....	2.14	....	....	....
B	0.68	1.14	1.36	2.00	1.11	1.80	2.57	2.90	2.42	....	....	....	2.19	....	....	....
C	0.73	1.21	1.45	2.10	1.15	1.82	3.00	3.00	2.60	....	....	....	2.22	....	....	....
Fog	....	....	....	....	....	....	....	....	....	....	0.13	0.39	....	....	0.39	0.66

ability of Ortol to general work. Sensitometric tests prove that Ortol will show, when properly handled, a higher sensitometer number than Pyro (Scheiner Sensitometer) and even with a shorter development yield more density as well. For instance, two similar exposures having been given with foregoing instruments and developed one with Pyro, the other with Ortol, all conditions of temperature being equal, Ortol allowed a reading of 15° Scheiner after 2½ minutes development (photogrammetric density 0.41), as against 14° Sch. (density 0.29) for Pyro, and of 17° Sch. (density 0.49) after five minutes' development as against 15° Sch. (density 0.35) for Pyro. With Ortol a few drops of bromid of potash or citrate of potash solution 1.10 go a long way and act very powerfully as restrainers. As to the action of cold temperature on the development, it is best shown by the following tables, taken from Doctor Eder's "Die Grundlage der Photographie mit Gelatine Emulsion."

A short study of this table will enable any one to understand thoroughly the great ability of Ortol to cope with overexposures and to make the best of that developer under extreme circumstances. For great underexposures, on the contrary, the best methods are either to resort to stand development or to add to the normal developer a few drops of a ten per cent solution of caustic soda or caustic potash.

As a general developer for all-round work, the following formula will be found exceedingly useful:

A.

Water	20 ounces
Metabisulphite potash	70 grains
Ortol	140 grains

B.

Water	20 ounces
Soda carbonate crystals	2 ounces
Soda sulphite crystals	1½ ounces

Normal developer 1 part A, 1 part B and 1 part of water.

Greater softness is obtained by increasing the water or alkali or both.

Greater contrast by increasing the quantity of "A" and adding bromid of potassium (1.10 solution) as required.

For very crucial work, however, and when the greatest power of modification is required it is best to make up the developer in three solutions after the suggestion of W. D. Walford, the sulphite being kept separate from the carbonate, thus:

A.

Ortol	1 ounce
Metabisulphite potash	½ ounce
Water	60 ounces

B.

Carbonate of soda crystals	8 ounces
Water	30 ounces

Some writers suggest as an addition to this solution one-third ounce of a five per cent solution of hypo.

C.

Sulphite of soda crystals	10 ounces
Water	40 ounces

Normal exposure, vigorous negative, 1 part A, ½ part B, ¼ part C, bromid solution 1.10 as necessary, generally about two grains per ounce of mixed developers.

Normal exposure, softer negative, add 2 to 3 parts of water to above and reduce the amount of bromid to ½ to 1 grain per ounce.

Overexposure, 1 part A, ¼ part B, ½ part C.

Bromid 5 to 10 grains per ounce.

Underexposure, 1 part A, 1 part B, 3 to 4 parts of water, no bromid.

After the negative is fully developed but for the finest detail and it is feared that density might be too great, a good method is to flood the plate quickly with a weak solution of soda, say 1 part B and 6 to 8 parts water. After having allowed it to act for a few seconds, rinse the plate and immerse without delay in the fixing bath.

As previously stated, Ortol is admirably adapted to the development of bromid papers, yielding with them under proper conditions, a beautiful black deposit which comes nearer to that obtained with ferrous-oxalate than is possible with any other developer. We give here Hauff's original formula:

A.

	Grams.	Ounces.
Water	1,000	32
Metabisulphite potash	7.5	¼
Ortol	15	½

B.

	Grams.	Ounces.
Water	1,000	32
Carbonate of potash	60	2
Soda sulphite crystals	180	6
Potassium bromid	½	15-30 grs.

Normal developer, 1 part A, 1 part B, 4 parts water. With warm water the resulting image will be softer, with less, distinctly harder.

For gaslight papers, the same developers may be used to great advantage as follows:

One part A, 1 part B, from no water to 2 parts of water. By modifying the amount of the latter and the amount of the bromid, the color of the print can be modified to suit the taste of the operator from pure black to brown and even to red by the further addition of some carbonate of ammonia and ammonia bromid, and the suppression of the soda sulphite in solution B.

Any of the formulæ previously given is admirably adapted for the production of transparencies and lantern slides, and it is unnecessary to enter into further particulars on that subject. We can not resist, however, the temptation to reproduce the following formula (Andrew Pringle's) which has given in many hands the finest warm-black and brown slides we have ever seen:

A.

Water	20 ounces
Metabisulphite potash	75 grains
Ortol	150 grains

B.

Water	20 ounces
Carbonate soda crystals	3½ ounces
Soda sulphite crystals	2½ ounces

One part A, 1 part B, 1 part water, and from 1½ to a grain of potassium bromid to the ounce of mixed developer. We strongly advise lantern-slide makers to try the foregoing, preferably on some slow plates, and they will find it all that can be desired. We may add that the same formula is very well suited for the development of plates and bromid paper.

We have referred to the use of Ortol for stand development. By it negatives of admirable delicacy and gradation may be obtained even from very much underexposed plates. Usually the speed must be so regulated that development will be completed within an hour. Occasionally this might be extended to three hours. There is no advantage, however. The normal developer may simply be diluted from 30 to 50 times, or, if very slow development be preferred, the following might be substituted for it:

Ortol	20 grains
Metabisulphite of potash	10 grains
Soda sulphite crystals	130 grains
Soda carbonate	130 grains
Potassium bromid	3 grains
Water	About one pint.

More or less water will respectively slacken or increase the speed of development.

All the formulæ given above have been carefully chosen from the most popular ones that have stood the test of thorough investigation and practical work. We wish, however, to caution the reader not to use them without taking in account the fact that every formula published has to be adjusted to the particular plate one is using as well as to the ultimate results contemplated in the print. This is true of Ortol, of Pyro, or of any other developer, but for the photographer accustomed to pyrogallic acid development, Ortol will have but pleasant surprises and he need not modify his ordinary methods and processes to suit the new reagent. The change from the one to the other will cause him no trouble or spoiled plates if he has read carefully preceding remarks, and he will feel pleasantly gratified at the advantages of Ortol.

A. K. Boursalt.

Glass stoppers sometimes occasion even more difficulty than corks in their removal. An almost infallible cure for a fixed stopper is to grasp the bottle in the left hand, and with the thumb press against the offending stopper, while with the right hand gently tap against this pressure, using the handle of a knife or other hard instrument. In this way gradually work round the stopper, which will quickly become loose enough to be extracted.—*Nemo.*

SADAKICHI HARTMANN AS A PHOTOGRAPHIC WRITER.

E. W. Simmons, the painter, said to me, talking about art critics, one day: "Hartmann may be capricious and malicious, and rather careless at times, but he is, after all, the only art critic we have who knows a good picture when he sees it, and who is not afraid of expressing his opinion."

This seems to me a fair statement of Hartmann's critical acumen. He has a wonderful gift of analyzation, of picking out the leading characteristics of a man's work, and of putting his finger deliberately and apparently with a special gratification on its sorest spots. He hardly ever underrates, and only in rare instances (as with Steichen in *Camera Work*) overrates a man's ability. He is like a dead shot who hardly ever misses his mark. His style varies with his moods; for my taste it is often too high flavored, too profuse in its use of adjectives and superlatives, and too extravagant in its metaphors — when he, for instance, compares Wells Champney's pastel paintings to a Chinese laundry (everything being so distinct, clean and licked off as it were) and calling Miss Virginia M. Prall, a Washington pictorialist, a delineator of

By Rudolf Eickemeyer.

SADAKICHI HARTMANN.

"domestic reminiscences, parlor experiences and diary disclosures." This is hardly art criticism at its highest, but his articles have the virtue of being always readable. They hold the interest of the reader to the very end, are intelligent and instructive, and, what is worth a good deal more, absolutely honest expressions of "the opinion of one man," based on knowledge, experience and sound judgment.

His career as an art critic has been a long and varied one. He began with writing a series of European art notes for the Boston *Advertiser* and Boston *Evening Transcript* in 1887-88. A few years later he wrote several articles for the veteran art critic, Clarence Cook, who at that time edited an art magazine. In 1893 he started his own art paper, the *Art Critic,* "devoted to the encouragement of American Art," and four years later (the first enterprise lasting only six months) another art publication, entitled *Art News.* This little sheet — a pity it was so short-lived — established his reputation as an art critic. Augustus St. Gaudens wrote to him, "What you think in matters of art, I think of high value," and Robert Reid, "It's because your criticisms are so damnably good and hit us all so close to the anatomical section most sacred to us that I read them with joy even at my own expense." Letters of appreciation from the leading artists and literary men came pouring in from all sides. He was compared to Albert Wolff, to Taine, Ruskin, Walter Pater. He shrugged his shoulders: "People should remember that it is disagreeable even to have flowers thrown into one's face."

He was satisfied with being himself "full of force, fire and fearlessness," as E. W. Stimson, the founder of the New York School of Artist-Artisans characterized him. He was at all times a trifle too personal; it would often have been more dignified to have left certain things unsaid, and yet I suppose he could not help himself, it was, after all, his natural way of expressing himself. Nor would I find fault with it, if his aggressive style had not found various imitators. The Zolean style of criticism did not seem to me to be exactly what we are most in need of. It may do in France, but here the attitude of the public toward the artist is an entirely different one and personal attacks are apt to harm a man, and not render an artist's personality more interesting, what seems to be in Hartmann's mind.

Since the failure of his *Art News,* he has edited art columns in the *Criterion,* the *Weekly Review, Musical America, Romance,* the *Daily Tattler,* besides publishing numerous articles in weeklies and monthly magazines. In 1901, L. C. Page & Co. published his "History of American Art" in two volumes, and in 1903, his "Japanese Art." Both books went through several editions and are also published in England.

As a photographic critic Hartmann appeared first upon the scene in 1898 in the *Photographic Times,* with a series of nine articles devoted to the leading artistic photographers of America, and soon after in *Camera Notes,* to which he became a steady contributor. Stieglitz was in need of a man who would write up his disciples, and at the same time criticize them in a manner which he, in the position of their patriarch, could not very well do himself. Hartmann performed his task with great verve. He poured forth an endless series of appreciations (in which the sting of satire, however, was never missing) treating each worker from a dozen different standpoints, and as even at that time he was connected with more than a dozen photographic papers, here and abroad, it can really be said that it was he who made the Stieglitz and Kasebiers, Whites and Eugenes popular. Being used to criticize the perhaps not more serious but surely more important work of painters, he handled these photographers with an astonishing ease and at times humorous condescension, not always to their liking. He was in a continual feud, if not with Kasebier, it was with White, Eugene or Keiley.

He is a born fighter, enjoying fighting for fighting's sake. He has the tactics of a Terry McGovern. He never allows his opponents a breathing spell; he hits hard and is ever on the alert; he can stand any amount of punishment himself, and is decidedly a stayer. And should it be a "fight to a finish" it is usually he who deals out the knock-out blow. One might say of him, what Max Beerbohm said of Whistler, "After an encounter with him, his opponents never again were quite the same men in the eyes of their fellows."

After a while he grew tired of "booming nonentities" and devoted himself to articles on composition, etc., and for several years wrote almost exclusively on art topics. The best which have come from his fertile pen are, in my opinion, his pictorial criticism from his very first article, in which he tore Stieglitz's "Picturesque Bits of New York" to tatters, and his recent work in the *Photographer*. They have always appealed to the amateur. It is not only his superior knowledge that makes them valuable, but his delightful frankness of saying what he thinks.

In the meanwhile the clique of extreme pictorialists had become more and more powerful and dictatorial. They showed a decided inclination to control his pen, and to dictate to him what he should write. Everybody acquainted with Hartmann knows that he would not stand such treatment. He is one of these men whom nobody can dictate to, and who in turn does not dictate to anybody either, considering it "decidedly too much bother."

His present standpoint, endorsing the Salon Club of America, was really forced upon him.

"But I do not regret it," he recently said to me. "They are the comers, and I have always been the champion of new talents. I hate cliquism and sham estheticism, and if I stayed so long with the Secession it was merely because there was no opposition. I had something to say about photography, and made use of the opportunity offered to me. Besides, they did good work, and, although not exactly of the kind I like, I would have remained loyal to them, i. e., continued to write on art topics — that have but little to do with photography — simply for old association's sake. But they made a mistake when they tried to dictate to me. Their attitude became simply unbearable. I am sorry that we can not tell the truth without continually making enemies. But if that is the nature of the beast, what is there to do about it?"

Alexander S. Horr.

DAGUERRE MEMORIAL INSTITUTE, WINONA LAKE, INDIANA.

The photographers of Indiana are feeling rather proud these days of their headquarters, and they have good cause to be, for they now possess in the Daguerre Memorial Institute at Winona Lake, Indiana, a home that is the only photographic institution of the kind in the world. The building, which is of stone, is 122 feet long, of very simple but tasteful style, and has hall accommodation for over a thousand people. At the north end is a fine operating-room with single slant light, where demonstrations of posing and lighting can be made before an audience of at least two hundred and fifty. A convenient printing-room adjoins. Of the surroundings only words of appreciation can be said. There is a beautiful lake on the banks of which are fine summer homes, and great effort is being made to enhance the natural beauty of the scenery. No wonder the Indiana photographers are proud.

The greatest number of sitters are utterly ignorant as to how materials, colors and styles of costumes will appear in the finished portrait, and the operator is blamed for what is, as a rule, not his fault. As a rule it is well — and should be required — to avoid very positive patterns, such as large plaids, checks, wide stripes and much jet or other glittering trimmings and much jewelry. Glistening silks are difficult to light well. Dead luster silk, soft woolens, crapes, fleecy tissues and similar materials are always effective. It is advised, too, that one should soften, by rendering it indefinite, the line between skin and dress, both at neck and wrists.

SAMENESS.

I think it was the late H. P. Robinson who once said "the one intolerable defect in modern art is its dulness."

If we come to consider the great sweep of art, its breadth and scope, it is easy to feel how plainly this intolerable defect must show itself to-day at our exhibitions of pictorial photography.

Photographers have tried with some success to tear down the barriers that sameness and the bugbear imitation ever raise in front of the worker. And how much has imitation to answer for in keeping this dulness constant! Some in their desire to avoid imitation at all costs, have rushed to extremes, and have only succeeded in producing glaring eccentricity. The great danger that ever dogs photography as an art is the facility of imitation. But how avoid it?

Can we not, let us ask, by a closer study of Nature herself so assimilate fresh ideas and achieve such fundamental inspirations that a safeguard will be provided? Not by mere "truth to Nature" laws — for that dogma has probably done more harm and stirred up more strife in the ranks than aught else — but from the great open world of sweet sounds and scents, of rushing winds and singing pine trees, where the songs of birds and the bleat of mountain sheep are borne to us across the moorland wastes, from the wood, the moor, the mountain, and the field and stream? Surely inspiration gained in the lonely communion with Nature is what we need to seek.

Perhaps we are such gregarious creatures and so intensely sociable; anyway we seem to like best to drag in droves along the highways; few step off the beaten path and care to strike into the unexplored ground.

Many workers sooner or later are attracted to the pictorial side of photography, and considering the many pitfalls that await them with their lack of art training, it is really wonderful that we get so large a proportion of successful pictures on our exhibition walls.

But there is more wanted than the observance of rules of art — the touch of sympathetic personality that steeps itself in the simplest work of the artist; without this, a picture must be dull and uninteresting. Interest, personality, atmosphere. And atmosphere stands for much to-day. Many a picture that would be harsh and uninteresting becomes softened and altogether pictorial by the charm of atmosphere thrown over it.

Atmosphere is always present in Nature, but the picture maker does not always capture it and transfer it to his work. It is atmosphere that lends the value of tone to a picture.

But those earnest workers, who, in trying to open fresh paths from the eternal avenues of sameness so inveterately pursued by the flock, those pioneers who daringly push their experiments beyond the ordinary, know full well that notwithstanding the acrimony that may be poured upon them from the ignorant and old-fashioned, they can not afford to rest from their labors. The new work may be howled down and fiercely decried, yet often, strangely, those who are loudest in denunciation are the first to step in and attempt to reap the benefits and exploit the results.

They will help themselves unblushingly to subject, to treatment, to phase, to theme and style, aye, even to the mannerisms and idiosyncrasies of titling. No wonder there is imitation and sameness.—*The Amateur Photographer.* FREDERICK GRAVES.

THE writer of a recent photographic column has been impressing on his readers the value of drastic trimming down of prints to what he calls an artistic size (!), and remarks that "half a print is often more than the whole." Probably Euclid, Esq., would not have taken that statement lying down, but the writer's meaning is plain enough. My own experience is that there are plenty of photographers who know how to hack a print into sections, but that few of them know which is the right piece to keep. A good plan when in doubt as to the pictorial merit of a print is to mount it face downward, and use the white back for making notes and sketches.

ERRORS AND FALLACIES IN GUM PRINTING.

(Translated, by permission of the *Photographische Rundschau,* by J. C. Warburg.)

The technics of gum printing are now so perfect, and the use of the process is so general, that further details may seem superfluous. In saying that the technics of the process are perfect, one should add "in the hands of a few," for the majority of those who use the process have not mastered it as they did platinotype or carbon printing. The fault of this is to be sought less in the often contradictory formulæ and instructions than in faulty development. A really scandalous number of errors and prejudices about gum printing is in circulation. In undertaking to point out some of these, I base my assertions chiefly on six years' experiment with the graduated scale photometer.

Before going into detail I must traverse the idea that artistic results are only possible by means of multiple printing. I will not deny that it is the most suitable method, but it should not be forgotten that many pictures of high artistic worth have been made in single printed gum, as well as in carbon, in platinum and in silver. Equally incorrect is the assumption that gum printing is useless for other purposes, such as the reproduction of fine detail. The sharpness obtainable with gum by special and careful methods of work is nowise behind that obtainable in platinum. For instance, it can be employed for reproductions of engravings and etchings by a quite simple process.

Gum printing did not become widely spread until multiple printing had been worked out, and so single printing is now little used. [This appears to apply less to France and England than to Germany and Austria.— J. C. W.] Nevertheless, the beginner can not be sufficiently counseled to cultivate single printing; try from the very beginning to make the most of his subject by single printing. All the masters in this domain occupied themselves with it for years, which doubtless helped them to attain their present eminence. It seems unreasonable, too, to start on combined printing before mastering single printing; the latter offers difficulties enough in all conscience.

It is high time to clear up some of the absurdities by which failures are generally ascribed to the materials used.

It has been recommended to add to the gum solution fish glue, starch, gelatin, honey, sugar, dextrin, etc., with the idea of obtaining more half-tones. Apart from the fact that a chief advantage of gum is to suppress half-tones [Query — J. C. W.], the additions mentioned do not obtain the desired end. If all these different mixtures are tried with a sufficiently broad, graduated photometer, one will find no trace of increased half-tone. What one will notice is that most of the mixtures require forcible development with a spray, warm water or a sponge, and work less cleanly than plain gum solution.

It is also wrong to suppose that the gum solution is improved by being allowed to go mildewy. The addition of quinin, salicylic acid or carbolic acid to keep the gum is, however, no advantage; on the contrary, it is better to eschew all admixtures. Pure gum solution 1 : 2 or stronger is usable for years if carefully stored.

To ammonium bichromate is ascribed a higher sensitiveness than to those of potassium and sodium, a sensitiveness which in fact it does not possess. The differences between the three salts in this respect are actually so small that they can with difficulty be shown to exist. They are due to the different atomic weights of the salts, for which reason sodium bichromate contains more chromium than an equal weight of potassium bichromate.

Paper prepared with ammonium bichromate keeps the worst; potassium bichromate is the least soluble; the most suitable, therefore, is sodium bichromate. It is ridiculous to call a mixture of two or all three of them the most usable. There is no object in adding ammonia to the bichromate solution; the keeping properties of the paper are only slightly increased, while the sensibility is notably diminished. The addition of chromic acid has also no object;

the sensibility is certainly increased, but the paper does not keep so well [M. Demachy recommends this addition for the purpose of giving a tougher film for brush development.— J. C. W.].

In general it may be remarked that none of these more or less strongly recommended additions produce any substantial alteration in the result.

While so great a variety is apparent in these matters, that hardly two people work with the same reagents, yet the proportions employed are more or less the same in all cases. If one takes the trouble to reckon out the quantities in the various formulæ used, one will find that they nearly all contain about 10 grams of bichromate, 20 of gum and 100 of water, with varying quantities of pigments.

Variations of these proportions are few, yet the limits within which this normal formula *can* be altered are extraordinarily wide.

One can decrease the amount of bichromate to ½ gram, or increase it to 40 grams; the quantity of gum may vary from a few grams to 80 grams. The variation in the quantity of bichromate only influences the sensibility of the gum film, but *has no effect on the character of the picture* [the italics are mine.— J. C. W.], except perhaps that the color of the underlying chromium image becomes more apparent. The keeping properties, however, are less when the paper has been prepared with much bichromate. The increase in sensibility is in direct proportion to the amount of bichromate employed. If the quantity is doubled, while other conditions remain the same, the exposure may be halved to obtain the same degree of the scale. Alteration of the quantity of gum between 5 and 50 per cent does not substantially alter the character of the picture, and these variations may be greater with plain than with sized paper.

Generally speaking, one may consider that a film rich in gum requires more bichromate than one poor in gum, to attain the same sensibility. The length of development will be shorter in the first case, but the film more easily damaged. In multiple printing it should be noted that a second coat sticks less well if the first coat be very rich in gum.

Intense colors require little gum. Bulky powder pigments, on the contrary, must be rubbed up with much more.

It is not necessary to use water-color paints exclusively. Many of the ordinary powder colors are very useful, but each one should be tested before use. A good color should be fast to light and should leave the paper well in development, which many otherwise good and expensive water-color paints will not do. Pure powder colors have the advantage over all other pigments, that they contain no suspicious medium or vehicle, and are easily measurable.

It is not correct to say that all blue colors print quicker than red ones; this also depends upon whether a lake or an opaque color is in question.

It is not necessary in all cases to size the paper. Some papers will stand multiple printing without; and with single printing, sizing is generally unnecessary and often harmful. The object of the preliminary preparation of the paper is to avoid shrinking and to allow forcible development without damaging the surface for further printings, an aim which is not always achieved. The methods of preparing the paper before coating are very numerous, and, as in everything concerning the process, we meet with the same idiotic endeavor to complicate the work as much as possible. Of all methods the simplest, and, for small and medium sizes, a fully satisfactory one, is to brush over the paper a two to ten per cent gelatin solution, to which a little formalin — say 20 drops to 100 c.cm. (3½ ounces) — is added just before use. For large sizes further soaking of the paper is necessary to avoid shrinking.

With regard to printing, the first fallacy to correct is that printing *through* the paper gives more half-tones. Reasoning by analogy from carbon printing, this theory was accepted as correct. A test with the photometer will show that it is not so. The suppression of half-tone is a character of the process.

No exact statements have been published as to the continued printing of the paper after exposure [what has been termed the continuating action of light], so this neglect will be remedied here.

If gum paper is not developed immediately after insolation, it continues to print. After two hours this after effect is equivalent to 1 degree on Vogel's photometer, after 20 hours 2 degrees, at most 3 degrees, and then the effect terminates.

THIRD PRIZE.

Reference may also be made to a fact which has been overlooked, but which may occasionally be put to practical purpose, namely, the hastening of printing by placing damp paper behind the sensitive paper. For it is not true that it is necessary for gum bichromate paper to be quite dry in order to be very sensitive; and it is also untrue that the moist coating is insensitive. The paper is most sensitive shortly after coating, when the gum bichromate film is no longer sticky, but the paper is still damp. Further drying diminishes the sensitiveness, but dampening the paper again increases it. This variation in the sensibility is so considerable and noticeable that it is curious it should not have been recognized and used long ago.

Development is *the* factor which gives the character to the picture, though paper, color and sizing certainly play a part. It is in deciding just which factor has a particular effect that the most mistakes occur. Often a successful effect is ascribed to the paper which was in reality due to the method of development; or the development is held responsible for a failure which is due to the preliminary sizing, or contrariwise. In no part of the process does one meet with so many incorrect impressions as in this. The idea that one particular method of development is the best and most suitable for every case is particularly wrong; wrong also the idea that slow development gives full gradation, and quick, forcible development the reverse. The supposition that mistakes in exposure can be made good in development is true only within very narrow limits.

The effect of development on the picture covers four points:

1. The sharpness of the details.

2. The degree to which the upper half-tones of the picture reach, which, however, is still more dependent on the length of exposure.

3. The number of half-tones.

4. The purity of the image.

Paper, color and sizing also affect the last two.

The maximum of detail is obtained when development is conducted by floating on cold water. The more violent and the more prolonged development is the more of the original sharpness is lost. For this reason violent development is preferred for artistic work.

The degree of the scale to which the upper half-tones reach — that is to say, the length of gradation — is also highest with quiet development in cold water. Every other method of development shortens the scale above. Besides the mechanical methods, such as pouring sawdust soup over the image, development by brush or with the spray, and rubbing with a sponge, there is also the use of warm water and of potash solution, which both shorten the scale of gradation.

The moment at which violent development commences is by no means unimportant. If a print, after long soaking, is treated with a ten per cent potash solution, one obtains a hard but usable picture; but if one places the exposed print into the potash solution *dry*, the color leaves the paper in the upper half-tones, while all the color remains in the shadows, and most of it in the high lights.

The greatest obtainable number of half-tones is produced by short development with the spray, without preliminary soaking. It is true that in the subsequent washing some of the half-tones are lost, but there are always enough left to give a picture richer in half-tones than are obtained by any other method of development. But the number of half-tones depends not only on the development, but also on the paper, color and sizing. Smooth paper, other conditions remaining the same, gives fewer gradations than rough. Sized paper likewise works harder than the same paper if unsized.

Purity of image is easily obtainable with any development in single printing. Inferior or insufficiently sized paper shows, especially with certain pigments (e. g., lampblack) a very apparent phenomenon which has been overlooked. Besides the positive image in the lower half-tones and shadows, there is a weaker negative image in the upper half-tones, which soon disappears with violent development.

In multiple printing this phenomenon often occurs, and much affects the purity of image in those cases in which any coating is being developed by floating; and one is often forced to remove the pigment with a brush, at any rate in the high lights. The purity of multiple prints altogether leaves much to be desired, and pictures in which the original whiteness of the paper shows are seldom met with. Nearly everything has a tint. That is often all right and would need no comment but that a virtue is often made of a necessity. The more or less visible chromium image always present, seldom impairs the purity of tone, but it often prevents the color effect desired being obtained. Generally it is sought to destroy this coloration by an alum bath, a proceeding which is nearly always unnecessary, and sometimes, as when using ultramarine, dangerous.—*The Amateur Photographer.*

Dr. Stephen Gasser.

LETTERS TO THE EDITOR.

Roxbury, Mass., September 5, 1904.

Mr. F. Dundas Todd:

Dear Sir,— Since I wrote the article on Kallitype, as published in the August issue of The Photo-Beacon, I have discovered some openings that might lead those unacquainted with the peculiarities of working the process to make a failure of it, or perhaps only a partial success. So, in the interest of good work, I have thought well to add a few remarks. That kallitype, of printing methods, is the most elusive of all, every one who has tried it must realize. When one is most confident he has mastered all its intricacies, some variation is certain to crop out. It is as elusive and uncertain as the shell game of the bunco men — you think you can with certainty find the pea when, behold, it is somewhere else. For the past six months I have been experimenting, and thought I had got it to a reliable basis, but now I see where one might fail. So I will enlarge on such points as occur to me.

W. H. Porterfield, Buffalo, N. Y.

THIRD PRIZE.

The process, as outlined by me, I consider in a state of transition. I gave to my comrades such data as were mine to give to date, with the hope that some other might improve on it. Had I waited until perfected, perhaps my article would never have been written. Now for some hints:

If you fail to get black and white prints with a single coating, give another after the first has dried. I have found that sometimes a single thin coating gives brown tones.

If the image lacks vigor, add ferric oxalate to the sensitizer, say two grains at a time, or try a couple of grains oxalic acid.

Should the image have too much contrast, dilute sensitizer with such distilled water as is necessary to obtain desired results.

Do not mix more of the solutions than

you can use in a reasonable time. The sensitizer sometimes molds.

The developer (silver solution) does not seem to keep well more than a few days. Do not add the oxalic acid until just before using. Mix the silver nitrate, citric acid and phosphate of soda in one bottle, and the oxalic acid in another, mixing just before using.

Do not expect the best results on an unsized paper. To get velvet effects, use a good size, such as is made with arrowroot for a base.

As I before remarked, I do not consider the formulæ as they now stand as perfect. I am working along lines for improvement, particularly to the end of getting a more pronounced provisional image. The faintly defined image is good enough with strong negatives, but with those that are thin it is difficult to gauge the printing.

JAMES THOMSON.

NEW YORK, September 19, 1904.

Editor THE PHOTO-BEACON:

DEAR SIR,— You would greatly oblige me by printing this letter in answer to a certain unfair criticism, made by the editor of *The Photographer,* about my article, "Little Tin Gods on Wheels," published in the September issue of your magazine.

I have always admired versatility in a man, but versatility, as recently displayed by the editor of *The Photographer,* of advocating at one moment the new movement, and at the next the secession, seems to me a little depraved. An editor is necessarily a champion of one or the other movement, or an independent. To pat both sides on the back is extremely difficult, and Mr. Abel does not seem to be up to the task, as he is helplessly floundering from one side to the other. Like a weather vane, he changes his policy, enabling you to see which way the wind blows most favorably for him. Only a few weeks ago he pronounced publicly (in the presence of the writer and other witnesses) his hatred of the secessionists, that he was waiting for the opportunity to get even with them, and now — after a conference with Father Keiley — he has suddenly turned around.

Now, Mr. Abel, are you not aware that your opinions (for reasons mentioned) are absolutely valueless, and that nobody pays any attention to them?

As for accusing me of snake nursing (a clever *bon mot* by the way), well, I wish you would specify the deliberate misstatements and untruths that I am supposed to have made. Nobody tries to belittle the accomplishments of the secessionists. We all know that their technical finish is exquisite. The only trouble is that they "go their own way" but do *not* allow others to go theirs.

But it is really futile — futile as cloud shadows in a summer day — to waste any more words on the doings of the editor of *The Photographer.* We all know what his opinions amount to. At first secessionist, then for the new movement, then again secessionist (but never again a champion of the S. C. and F. A. P. S., I can vouch for that). The new movement needs another board of advocates. Nor are the secessionists in need of him, for they would have to be in their very death throes to find Mr. Abel's support useful. In the meanwhile, Mr. Abel is digging his own grave, and it is most amusing to watch him being deliberately engaged in preparing for his funeral. JUVENAL.

BISBEE, ARIZ., August 27, 1904.

DEAR SIR,— The Bisbee Camera Club was organized on July 6, at a lantern slide entertainment held in the gymnasium building. The slides of the Orange Camera Club of New Jersey were enthusiastically received, and the club organized with an enrollment of thirty-eight names as charter members.

The club is allied with the Bisbee Gymnasium Club, and uses the gym. floor, seating two hundred and fifty people, for exhibition purposes. The workrooms consist of locker-room, washing-room, a two-compartment darkroom, and an enlarging room. A set of "Arizona" slides is now being prepared to send east this winter.

WM. H. APGAR, *President.*

SOME FUNDAMENTAL PRINCIPLES.

It is a fact which can not pass unnoted that in everything Nature abhors uniformity. Infinite variety everywhere is her constant aim and purpose, and it is to be seen on every hand. The water is almost constantly in motion, with graceful curves, and infinite undulating lines; but should by chance a calm occur, its uniformity is at once broken by reflections of earth and sky! The sky, too, is the very embodiment of constant change and variety; never the same; always altering its appearance. The mountain peak, the range of hills, even the tree, present constant alterations of lines and coloring and general contour. Any one who has lived long in sight of a mountain well knows what countless shifting scenes it affords its close student. A level, unrelieved plain never pleases. Nature would alter it as fast as possible. Reduce the earth to the commonplace and she soon retrieves it to beauty and infinite variety again if opportunity offers. In all this she has a lesson for the artist photographer which he may well take to heart. From her he may learn the first great lesson of artistic beauty.

The portrayal of the human face has a fascination beyond that of any other subject. It offers infinite opportunity for the display and employment of one's talent, taste and ability. It is a favorite subject because in so many ways favored. When one has exhausted the possibilities of the human face he has indeed encompassed the infinite.

The side light is a life study in itself. If it is not admitted at just the right angle, and is too strong, or too weak, it throws heavy and unnatural shadows across the face, so marring the whole effect. The magic of its touch is fascinating, but the photographer should not be so carried away with its possibilities as to produce an unnatural likeness. He can not do better than to represent the personality of the sitter, just as it is, and as forcibly as possible, for there is no subtler thing to represent than this, in all creation. Let the side light be a faithful and efficient servant, but never a master dominating one's work.

Be partial to light, rather than shade. The former is always attractive, while the latter is somber and gloomy. Light up and illumine your work, as far as you possibly can. There is a deal of truth in the wise saying of Solomon, the philosopher of old, "Truly the light is sweet, and a pleasant thing it is for the eyes to behold the sun." Remember this ancient proverb in determining the character of your work.

In everything strive to give delicacy and charm; in the arrangement of the costume of the subject, the nature of the background and the pose and attitude of the head and figure. All these things speak of the very effect which you wish to produce. But remember that in every way the background and accessories must be appropriate and befitting, or they will decry your taste in a manner to be lamented, and in effect prove of the very worst.

How frequently we see a former time representation with brush and oils of some fiery old soldier of bygone days presented standing with back to a fierce battle being waged some little distance in the background, with colors flying, cannon booming and men and horses dashing wildly this way and that, while our hero of many such an encounter stands calmly facing us, as unperturbed and unconcerned as can be! What an outrage it is upon the martial spirit which would have set his very soul aflame at such a time!

The intention of the artist was, of course, by his background to suggest the character and past history of his subject, but he has done so in a manner thoroughly unbefitting. Yet a hint or suggestion properly given in this way is telling and commendable. The idea is right, only it must be carried out with propriety.

It is a fact which must be admitted that strong light is often inconsiderate, bringing out every blemish without reserve. But, on the contrary, it reveals charms as well, and is always truthful, whereas shade often suggests blemishes which do not exist. Beware of this treacherous character of your second assistant in portraiture work!

A mere representation of an individual is not, in the true sense, a photographic likeness. It must have some meaning, some significance to it, to be of merit. It must have something to tell about its subject to be in any sense a graph, a writing. The Greeks used to say of the "Polyxena" of Polygnotus, the first portrait painter of Athens who attained to any degree of renown, that "the whole Trojan war lay in her eyelids!" so full of expression was the face as he had represented it.

Every portion of a tasteful photograph, from foreground to background, speaks agreeably to the beholder, if produced with the skill of the real artist.

The ninth commandment is above all others the one which the photographer should most faithfully observe, "Thou shalt not bear false witness against thy neighbor," for this he is in the most danger of transgressing. Let him tell a truthful story of his subject, if he would find favor with all.

ALEXANDER VICNOR.

SENSITIZING CARBON TISSUE.

At a recent meeting of the Royal Photographic Society, Mr. H. W. Bennett introduced a new method of sensitizing carbon tissue. One of the most charming features of the carbon process (said Mr. Bennett) was the facilities it afforded for printing in so many different colors. The worker in a comparatively small way, however, was met by serious difficulties when he wished to keep a small stock of sensitized tissue. The obvious remedy was to sensitize the tissue oneself as might be required; but, unless the drying arrangements were perfect the sensitizing in the ordinary way proved far from satisfactory. By the new method even the smallest quantities of tissue could be sensitized and dried in any ordinary room. The products of gas combustion would not affect it, and beautifully fine gradations might be obtained in the prints. The sensitizing solution was as follows: Potassium bichromate, 1 ounce; citric acid, ¼ ounce; water, 50 ounces; ammonia, about ¾ ounce. The proportion of ammonia required might vary slightly, but sufficient should be used to change the color of the solution to a distinct lemon yellow. The drying might be carried out without any special precautions beyond the darkening of the room, and would take from four to about seven hours. Tissue sensitized according to this method showed no tendency to break, and would allow the backing paper to be stripped off quite easily. The citric acid had considerable effect in regard to the gradations of the print, and the proportion could be increased or decreased as found desirable. The printing took about 50 per cent longer than usual, but that was a very small disadvantage in face of the fine gradation obtainable. All makes of tissue appeared to be equally sensitive when treated in this bath. The keeping qualities of the solution appeared to be very good, provided it was carefully made up and distilled water used. Some of the prints shown were made with solution which had been mixed up several weeks. Mr. Bennett said he usually sensitized the day before printing, and found no special precautions in regard to storage necessary, beyond keeping the tissue under pressure and protected from the light and air. B.

IMPERIAL LANTERN SLIDE PLATES.

In many of the large cities of this country, an English lantern slide plate, the Imperial, is very popular with the workers because of the variety of colors that can be secured on it. Generally, some local dealer imports them, but the sale is naturally restricted to the local market. G. Gennert, 24 East Thirteenth street, New York, announces that he is now importing these plates in large quantities and can supply any one.

THE Century Camera Company, Rochester, New York, announces that the firm is now making a studio camera that embraces decided novelties. Full particulars will be sent on application.

A NEW METHOD OF TONING.

A patent has been taken out in France by M. Stoicescon for a method of toning P.O.P. and other printing-out papers, by which it is stated a great variety of tones can be obtained at will. He employs salts of gold and tin, either with or without an organic reducer, such as gallic acid. The tones are said to depend upon the state of division of the gold deposited, and also to the extent to which it is reduced. The deposit also contains tin peroxid. The following is given as an example; it is, however, capable of wide variation. The two stock solutions are:

I.

Stannic chlorid	320 grains
Citric acid	5 grains
Sodium carbonate (or borax)	64 grains
Sodium chlorid	30 grains
Water	30 ounces

II.

Gold chlorid	15 grains
Water	15 ounces

One ounce of the gold solution is taken, diluted with nine ounces of water; five grains of sodium carbonate are dissolved in it, and half an ounce of stock solution No. I is added.

Toning in this is rapid, taking only a few seconds, although the final color only appears during the after process of fixation in a solution of hypo (1:5). For tones governed by the physical reduction of the gold, which may vary from rose to purple and indigo blue, the bath may be made up of one ounce each of stock solutions I and II and one dram of a solution of gallic acid (of a strength of three grains to the ounce) and ten ounces of water. In this, toning is said to take from five minutes to an hour, according to the color desired, and the fixing modifies to a great extent the final tone. Immersing a finished print in a solution of mercuric chlorid yields brilliant red, which, however, is not stable in a damp atmosphere. Platinum may replace the gold in this process, but it always gives brown tones, the deposit consisting of reduced platinum and tin peroxid. The gallic acid, it is said, may conveniently be made up into tablets containing from one to three grains of gallic acid, three grains of potassium oxalate and three grains of borax, worked up with a little gum arabic.

THE COST OF SEEING THE WORLD'S FAIR.

Before going to St. Louis, I heard from many people that it cost a fortune to live in St. Louis for a few days, and I merely wish to say that an experience of seventeen days there does not bear out that assertion. I found a very good, convenient room for $1.50 per night, and I have not the least doubt had I tried a little I would have secured a satisfactory one for less, for everywhere I could see accommodation offered as low as 50 cents. My breakfast, consisting of fruit, cereals, meat and coffee, cost me half a dollar at the hotel, though one of my friends told me he got the same thing elsewhere for a quarter. In the grounds, one gets a comfortable lunch and supper anywhere from 25 cents to 50 cents each. I have eaten them and was satisfied, though ordinarily I spent more, but it was simply a case of paying for more style and side attractions, such as fine music. I found downtown prices just as before. It is evident, therefore, that if any one spends big money visiting the Fair, it is because he wants to do so, not that he must do it.

Mark Twain gives the following account of his first meeting with the late Mr. Whistler. "I was introduced to Mr. Whistler in his studio in London. I had heard that the painter was an incorrigible joker and was determined to get the better of him if possible. So at once I put on my most hopelessly stupid air and drew near his canvas. 'That ain't so bad,' I said, 'only here in this corner,' making as if to rub out a cloud effect, 'I'd do away with that durn' cloud.' 'Be careful, sir!' cried the painter, 'don't you see the paint is not dry?' 'Oh, that don't matter,' said I, 'I've got an old pair of gloves on.' We got on well after that."

PHOTOGRAPHERS' ASSOCIATION OF NEW YORK.

The photographers of New York State at last have an association, with the following officers: President, Pirie MacDonald; first vice-president, Theo Marceau; second vice-president, Dudley Hoyt; secretary, Walter Talbot, Schenectady; treasurer, Levi Moore, Albany.

SODIUM SULPHITE.

OURAY, COLO., August 3, 1904.
THE PHOTO-BEACON, *Chicago, Ill.:*

I notice in your May number an article on sodium sulphite in which mention is made of the greed of that salt for oxygen, with the result that sulphite is converted into a sulphate which destroys its usefulness for photographic purposes. The writer says:

"A solution of sodium sulphite may be treated for purity by adding a little hydrochloric acid and then a few drops of a solution of barium chlorid. A precipitate or milkiness of the solution shows the presence of a sulphate."

This is misleading and if a test were made by one not knowing the facts, might lead to the condemnation of the best possible quality of sulphite. The precipitate will be present every time and barium chlorid is added to any solution that has *sulphur* as one of the constituent parts. The precipitate is a barium sulphate caused by the affinity of barium for sulphur and has no bearing upon the quantity of oxygen present in the salt under examination.

C. F. NICHOLSON.

[The mistake in the article consisted in the writer not using the word "decided" in front of the word precipitate. With pure sulphite the precipitate is slight.—ED.]

FOCUSING SCREENS.

To make a focusing screen, superior to the finest that can be bought, fix a dry plate, then flood it with a ten per cent solution of chlorid of barium, and follow this with a ten per cent solution of chlorid of magnesium. Allow to dry, and a perfect focusing screen results.

EDITORIAL TABLE.

"DREIFABRENPHOTOGRAPHIE — NACH DER NATUR," by Prof. A. Miethe, is the title of an exceedingly interesting work which has lately come to hand. It would be presumptuous to criticize too closely a review of this most fascinating branch of the photographic art by so eminent an authority, and indeed an adverse criticism would be most unfair. The book is well written and differs from almost every other upon this subject, in that the author takes for granted a general knowledge of the primary principles of photography, and therefore does not inflict upon the reader that mass of literature which is to be found in any beginner's handbook. The chapter upon the sensitizing and drying of the plate is especially clear and comprehensive, and is illustrated by a cut of the drying apparatus used by the author. The various methods of printing the color selective negatives both for use in the lantern and as transparencies are fully dealt with — in fact, the book is devoted exclusively to those two methods, that of reproduction by means of printing plates and presses not being taken into account, as having no place in the work of the professional or amateur. A frontispiece by this latter method from negatives by Professor Miethe certainly leaves little to be desired in the matter of artistic feeling and effect, and it is on the whole a work which we can well recommend as worthy to occupy a prominent place in the library of the student of color photography. Published by Wilhelm Knapp, Halle a. S. Price 2M. 50.

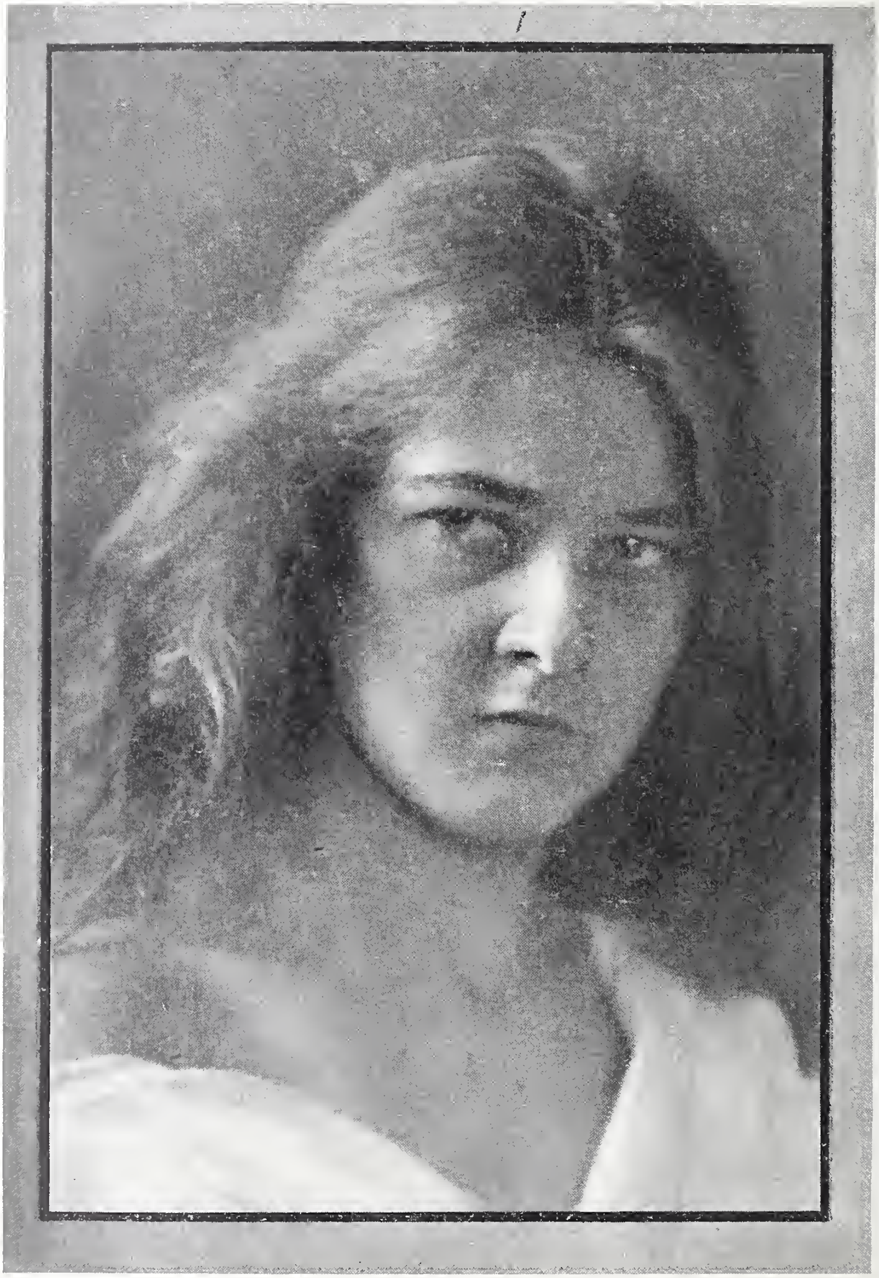
MILTON WAIDE, 164 Fifth avenue, New York, has just issued a prospectus regarding his method of teaching "One-man Photography," which will be sent on application.

THE PHOTO-BEACON.
AN ILLUSTRATED PHOTOGRAPHIC JOURNAL
Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All communications relating to THE PHOTO-BEACON should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621 Broadway, New York.



Louis Fleckenstein, Faribault, Minn.

FIRST PRIZE.

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 908 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XVI. NOVEMBER, 1904. NO. 11.

CAN A PHOTOGRAPH BE A WORK OF ART?

In the photographic world for many years a great number of workers have claimed that many photographers are honestly entitled to be designated as artistic, but much as I have desired to see such recognition given to photography I have always felt that no authoritative body had ever said so, and until a favorable decision from such a source had been given, it was absurd to make such big claims. No one would have more satisfaction in such a claim being allowed than I have, because my great objective as an editor of a photographic journal is to lead my readers to work for pictorial results, but I don't want to see the products of the camera labeled artistic until they honestly deserve such recognition, and no fair-minded man can desire differently.

The World's Fair presented the photographers of this country with an opportunity to get an authoritative and unbiased opinion on this problem, but many of our leading workers tried to secure it beforehand by making a demand that at least one photograph should be hung in the Arts building. No matter how one tries to explain such a condition away, the very fact that such a demand was made looks to me as if behind all the shouting there was rather a lack of confidence in the solidity of the claims that were advanced, and this suspicion was rather intensified when these workers declined to take part in the photographic exhibit in the Liberal Arts building, making the country in which this great exposition is held take an inferior position to some foreign nations.

From the first, these workers have insinuated that rather mean motives influenced some of the chief officials of the exposition that were more immediately concerned with the photographic department, especially when apparently no action was being taken to carry out the rules and promises made by the exposition company in the prospectus issued by the liberal arts section. Many photographic editors thought by writing scathing articles they could break the deadlock, but I felt that this was simply useless, as the parties most concerned — that is, the officials — were busy men, with no time to read the thousandth part that is written about the Fair and themselves.

Now, I wanted a decision one way or another, so that the photographic world might know where it was at. If favorable, I would feel jubilant; if otherwise, it would be just as well to know the truth, and photographers would be well rid of a whole lot of nonsense that prevents them settling down to business. I, therefore, took it upon myself to get acquainted with the three gentlemen most concerned with this important subject and find out wherein lay the hitch. Colonel Ockerson, of the Liberal Arts department, I soon found out, had done his very utmost to get the rules carried out, but Professor Ives, of the Arts department, insisted that the rules under which he worked would not square themselves with the other set. But I found that Director Skiff had signed both sets of rules, therefore it was his duty to harmonize them, and on drawing his attention to the matters at issue he undertook to see that the promises made to photographers should be kept.

Just as I am preparing this issue for the press, I have a letter from Colonel Ockerson informing me that the American exhibit had been examined by members of the superior jury and that their verdict was as follows:

"In rating the works [the photographs are here referred to], they [the members of the jury] have given them the most careful attention and examination, and while they recognize the artistic way in which the photographs have been executed, they can not class them as works of art, on account of the very important way in which the mechanical process interferes with the effect they desire to obtain."

Unfortunately, this opinion refers only to the American exhibits and is, therefore, non-conclusive because claims may be made that the foreign exhibits are far superior to the American, and, therefore, I have taken the liberty of writing Professor Ives, asking if in the opinion of his jury the same remark were equally applicable to those of foreign nations. His answer should set the great problem at rest for a while.

THE NATIONAL CONVENTION.

Frankly, I can not decide whether the National Convention at St. Louis last month could be called a success or not. That it gave those attending an opportunity to see the World's Fair, the greatest exposition of modern times, is a point in its favor, but, on the other hand, it decidedly curtailed the actual work of the convention proper.

The hall for meetings was very unsatisfactory, being small and difficult of access, and the result was that I found it almost impossible to make regular attendance at these, and so must wait for the complete report before I can learn what was actually done. One photographer summed up the situation as he saw it in a very few words to this effect: "I think the photographers of this country are about to make a break of some kind [it may be presumed he meant a new departure], but whether up or down I can not make up my mind, but the future will show."

I think he described the situation as I saw it very neatly, for any one can see that the present condition of photography as a business is not satisfactory to those who are in it, and that many minds are working toward a solution of the problem. It is but one phase of the unrest that is found in all economic, moral and religious thought throughout the world, but the great problem is to first diagnose the basic factor, and having found it, to select and apply the proper remedy.

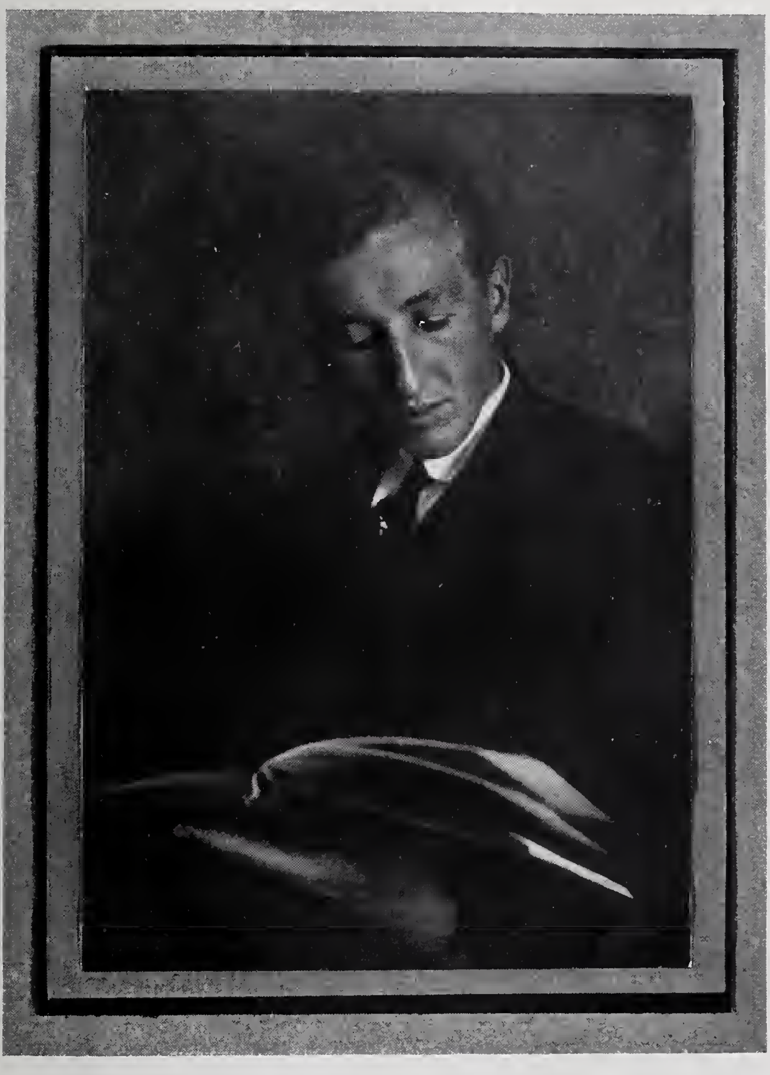
As far as I can see the situation, the trouble with photographic conventions as a whole lies in this, that not enough stress is laid on the business end. At one time the meetings essentially consisted in providing everybody with a good time; from 1896 and on, the pictorial side has had the most consideration, with excellent results, as every one knows, but after all it must not be forgotten that every photographer is in business to make a living, and so, sooner or later, this mightiest of all problems must be faced and solved.

A photographer who has for the past two years been in attendance in an official capacity upon a large number of conventions, ranging from trust meetings to those of trade-unionists, informs me that from start to finish in all these gatherings only one problem is discussed, and that is, how can each member get more money for his output or services, as the case may be. It is only when he attends a photographers' convention that he finds the dollar ignored, and he wants to know why.

The convention that works toward this end most seriously is going to be the most important photographic convention that ever assembled in this country. F. DUNDAS TODD.

PICTORIAL COMPETITION NO. 77.

This competition was apparently the closest yet, if I may judge by the difficulties of getting a decision. The jury consisted of six artists and an art critic of one of our leading Chicago newspapers, and my first procedure was to get each one to make a selection of prize-winners. Great diversity of opinion was shown here, so in the end it came down to a question of voting, and I may say that the pictures were placed in their final order by a bare majority vote every time, conclusive proof of the closeness of the running.



Sara W. Holm, Chicago.

SECOND PRIZE.

The following are the awards:

First prize — Louis Fleckenstein, Faribault, Minnesota.

Second prize — Mrs. Sara W. Holm, 406 East Erie street, Chicago.

Third prize — George T. Power, 6607 Stewart avenue, Chicago.

Special Mention.

E. A. Snyder, R. E. Weeks, W. H. Porterfield, W. G. Corthell, M. H. Pfau, G. E. Keller.

Particulars of Winning Pictures.

First prize — Taken April, at 11 a.m., by upper half of north window and diffused light from west window. Rear combination of Goerz lens, open stop, ten-second exposure on standard plate. Print on W. & C. platinum, toned in mercury.

Second prize — No particulars given.

Third prize — Made on Seed's N. H. Ortho with back combination of plastigmat, light from an ordinary window, exposure seven seconds, printed on W. & C. platinum, toned.

Future Competitions.

Competition No. 79 — Landscapes, Closes November 30.

Competition No. 80 — Flower pictures. Closes December 31.

Competition No. 81 — Sharp-focus competition, either landscape or waterscape subjects. Closes December 31.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else*. The outside of the package in addition to our address, may bear that of sender. Accompanying a letter or postcard should be sent us, giving full particulars of date, light, plate, stop and exposure given; also the printing process.
2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.
3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.

Second — Books to the value of $2.50.

Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

PROFESSIONAL PORTRAIT COMPETITION No. 9.

In these competitions the most interesting thing to me is to see how the contestants are steadily but surely improving in their appreciation of tone. This is a great pleasure to me, for it shows that the professional photographer needs but to have his attention drawn emphatically to certain things to improve in his work. Sometimes, in my cynical moods, I refer to what I call spasm students. These are the men I meet at conventions, who importune me to tell them their faults as they are simply longing to improve, but once they are away from me they revert to their former mental lassitude. My presence seems to throw them into a spasm, but they almost always make a good recovery.

Few men seem to have sufficient persistency. They become enthused for a moment, and then change off to something else. Now, in photography the average man has had a very poor preparatory training, and it consequently is incumbent on him, if he would improve, to persistently follow up some idea day by day. Realizing this, I have in these competitions laid the most stress every month upon the photographers' two weakest points, line and tone, and for each individual's own good I would urge him to take part every month, because the mere fact that he intends to compete is sufficient to interest him in these two vital parts of his work.

The first prize this month, in my opinion, falls to J. Borry, of Thief River Falls, Minnesota, with a very charming child picture, which is a fine bit of tone rendering. It will be observed that the photographer selected a rather long scale, but he carefully refrained from attempting to make it complete, stopping short at the light end, for in the print there is not a pure white. But I like the handling of the face and drapery of the child and the easy transitions he has made from the one to the other. The introduction of the mother's figure is an excellent idea, and Mr. Borry must be complimented on making it so subordinate to the principal one — that of the little girl. If I were to take any exception to the arrangement, it would be this, that the picture reads wrong, that is, our eyes naturally read from left to right, and so the child's head should have come before the mother's.

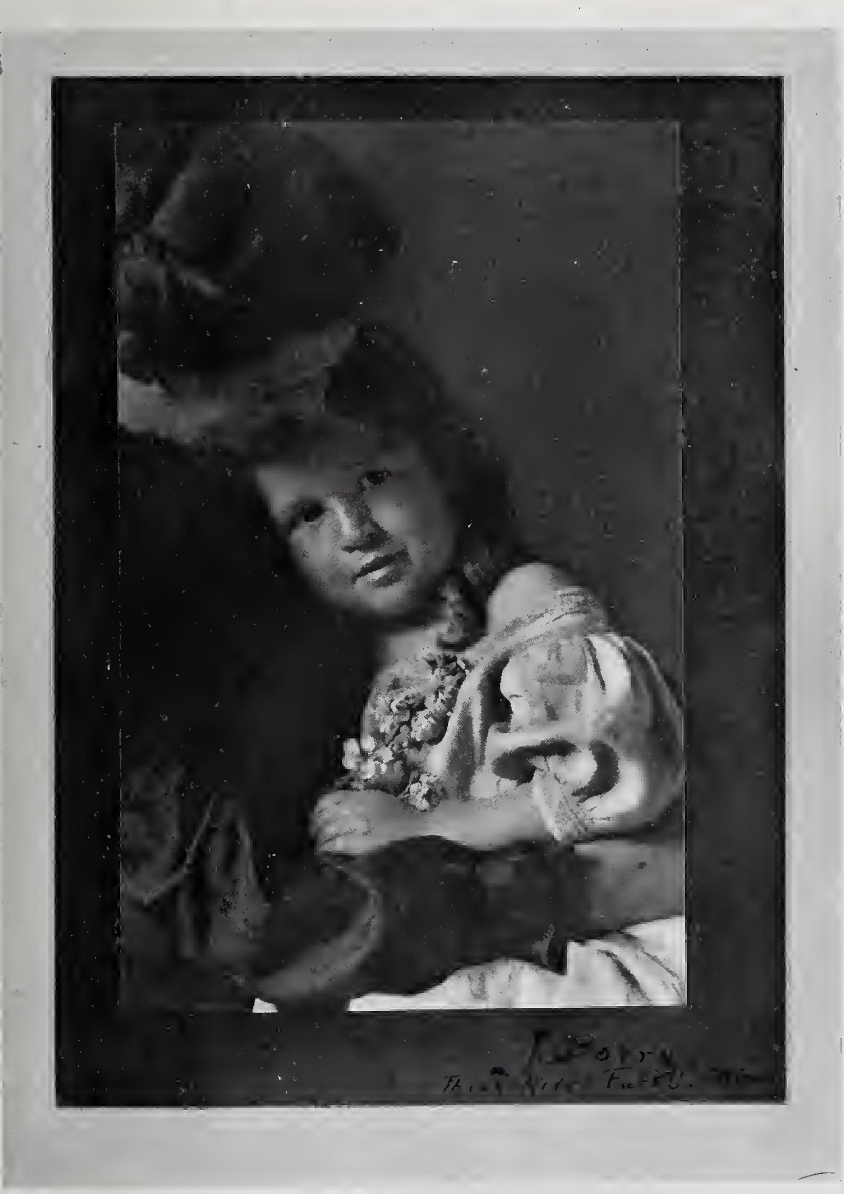
The following letter from Mr. Borry will, I think, prove interesting:

Thief River Falls, Minn.,
September 3, 1904.

Mr. F. Dundas Todd, Chicago, Ill.:

Dear Sir,— Photo-Beacon just received. I observe you wonder why I send so widely different prints. The reason is that I am not after the prizes, but after criticism. I can see when a negative or picture is bad, but can not always tell why.

I think photographers are mistaken when they think or say that their customers do not



FIRST PRIZE.

like work that has artistic quality. The majority do, if you can point out to them why the picture is good (with exception of ladies who want their dresses photographed). But the greatest trouble is in the subjects. It is hard to make anything out of a flat, expressionless face and a stiff, awkward figure which gets more impossible than ever before the camera.

The short remarks about my pictures which I have got through the year have benefited me a good deal. You learn more by having your faults pointed out than by learning where you have been successful.

Is it possible for a photographer to make an artistic group in the gallery? I have not seen one yet. Yours truly, J. BORRY.

This, from an amateur, is also, I think, worth printing:

The Photo-Beacon Company, Chicago, Ill.:

GENTLEMEN,— I wish to acknowledge receipt of the missing back numbers of the PHOTO-BEACON to which I drew your attention on July 28.

I have studied with much satisfaction the criticisms on the prints submitted in the various professional portrait competitions, and wish to thank Mr. Todd for the clear manner in which he sets forth that which is necessary for the average photographer. It seems to me that if he keeps this up a little while I shall feel competent to open up a studio of my own, though I do not intend to. It seems to me that this series of criticisms is the most instructive of all the papers you have published in the BEACON, or of any that have been published in any one of the six or more photographic magazines which I get each month. Coming together, as these back numbers did, and having the time now to study them together, I have profited much by them, and I must thank Mr. Todd for his teaching. With best wishes, I beg to remain,

Yours truly, ——.

The maker of the second-prize picture truly says of it that it is under-exposed. That is, of course, a technical defect, but he has been wise enough not to develop it too far, and has thus held it fairly true to tone, and for this reason I place it second. The pose is very conventional — that is, one side fairly balances the other, but the necessary variety is attained by a different gradation in the background, by the angle of the parting of the hair and by the little gleams of light on one side of the drapery with almost deep black on the other.

All readers know by this time the magnificent technical skill of Mr. Berkeman. Every print he has sent in so far shows perfect exposure, development, printing, toning and mounting. His qualities as a workman are, unfortunately, rather rare, but I am in hopes that at no distant date the average member of the profession will rise to his level. His print this month reminds me of a discussion I had in 1896 at the Ohio convention, with a leading manufacturer, about Inglis' lighting which, my readers will remember, I was then advocating in season and out of it. My good friend then asked me if I realized there were other schemes of lighting besides the one I was advocating. I replied that there were twenty-six letters in the alphabet, but there was no good teaching the other twenty-five until the first one had been learned, and I went on to say I was teaching "A," and if photographers learned that thoroughly they would discover the others for themselves. For years I have said little at conventions about lighting, simply because I found the exhibitors who had learned "A" had found out a whole lot of letters for themselves, and I did not feel that any one man had a right to dominate the whole photographic world. All this is preliminary to one thing I want to say to Mr. Berkeman. He has learned "A" very perfectly: now I want him in future to show me the ones he has learned for himself.

F. DUNDAS TODD.

NOTICE.

In accordance with a rule instituted some years ago, the C. P. Goerz Optical Works in Berlin have again this year given a week's holiday to all the workmen of their factories in Berlin and Winterstein, Germany, as well as the employes in the New York branch factory. The workshops in Germany were closed from September 5 to September 12, and in New York from August 20 to August 27. Taking into consideration that the firm is working overtime, with day and night shifts, the value of this concession to their workmen, who receive full pay for the week of vacation, will be all the better appreciated.

DEVELOPMENT—SCIENTIFIC AND PRACTICAL.

CHAPTER III.

When professional photographers, plate demonstrators and a man with such a long experience as photographer, platemaker and paper manufacturer as James Inglis have to confess inability to solve this problem, it may be presumed that my readers will admit that the resulting prints are wonderfully alike, no matter how different the negatives look when examined by transmitted light. It would appear then that all the past

SECOND PRIZE.

theorizing that has been indulged in about the possibility of modifying the effect of light action on a photographic plate has been largely based on erroneous premises, that the experiments have not been carried out scientifically and that examination of a negative by the eye is not a satisfactory method of estimating its value for producing prints.

The results of the average photographic experimenter are worthless. He will expose a plate to-day upon some object, which on development proves a failure. It may be a week later he will expose upon a different subject, in different conditions of light, and use a new developer, or modification of the one previously used. Should the result be satisfactory, he at once gives credit to the method of development, altogether overlooking all other conditions. Now, my work this spring has proved to me beyond doubt that the thermometer and the clock are mighty important factors in development, in fact I am convinced that these are the ingredients indicated somewhat vaguely when the wiseacres advised that brains be mixed with all developers. But these two instruments are utterly neglected by the average man, yet their absence would, to my mind, vitiate any so-called experiment in development. I change nowadays from one developer to another with the utmost freedom, and so does my boy of thirteen, yet we get good results all the time. If the latter goes into the darkroom and finds no supply on hand of a developer he understands, he will come to me and ask for the temperature and time of the one he happens to find there. Here is a sample of the questions he will ask: "How do I mix Ortol, and what is the time for a landscape?" The answer will be, "One part each, two parts water, six minutes at 65°." Both he and I have the utmost confidence as to the resulting negatives. I have another son of eighteen who ordinarily will not touch a camera, and certainly did not for two years until recently. To oblige a friend he photographed a house and here is the whole procedure. I told him what stop to use and the shutter speed, the way to mix the developer he happened to find in the darkroom, its temperature and time, and absolutely unaided he produced half a dozen of really beautiful negatives, such as an expert would be glad to father.

Now these are every-day, plain facts which any worker can verify, and any explanation of them that is complicated and indefinite is necessarily wrong, for my study of nature long ago convinced me that the explanation of a principle that can not be expressed in a sentence is not true.

The classic researches of Hurter and Driffeld have cleared up much of the mystery that has overhung the subject of development, and proved that it is a perfectly natural process, working in strict accordance with law. They have shown that the amount of silver that may be deposited by development, the absence of fog being understood, is positively determined by the volume of light that reached the plate. We measure force by calculating the work it does, and the investigations of these gentlemen show that the silver deposited by the developer was invariably proportionate to the light, and that the character of the developing agent used, or its strength, had no influence beyond affecting the time the plate required to lie in the bath.

They also demonstrated that opacity and density are two different things, although the average person thinks they are the same. Opacity concerns the appearance of the negative to the eye, density refers to the printing quality. If we could arrange a couple of squares on a plate, such that one should pass exactly double the light of the other, we would find on printing from such a plate that the deposit on the paper would not be in direct proportion to the visual intensity. That is to say, the printing quality (density) of a deposit is not what one would expect from an examination of its optical quality (opacity). Here is the reason why one often gets a surprise when the first print is taken from a negative.

Now, what is the relationship of

opacity and density? This is one of the most important of Hurter and Driffeld's discoveries, and is deserving of the closest consideration by every one. Density, or printing quality, is the logarithm of the opacity, or optical quality. Non-mathematical readers will need a little explanation here to make this point clear.

Here is a set of numbers — 1, 2, 4, 8, 16, 32, 64 — so arranged that each one is exactly double of the one preceding. This is what is called a geometric series. Here is another set — 1, 2, 3, 4, 5, 6, 7 — so arranged that each one is different from those on each side of it by the same number — in this case one. This is called an arithmetical series.

Now we will arrange these numbers side by side

1, 2, 4, 8, 16, 32, 64.
1, 2, 3, 4, 5, 6.

placing the first figure of the arithmetical series under the number that indicates the multiplier of the geometric series. Each number in the lower line is called the logarithm of the one above it. Thus in the series under our consideration 3 is the logarithm of 8.

Now with these premises let us follow the argument and see what conclusions we arrive at. The deposit is determined by the intensity of the light that falls upon a particular part of the plate, so that if we suppose a series of beams of light to reach the sensitive film and that each beam is part of a series 1, 2, 4, 8, 16, 32, 64, in intensity, and if we allow the exposure to go on long enough to get a deposit from beam of intensity 1, then on development we will find that the deposits are directly proportional to the light force. And since 64 is the most powerful beam, the deposit there will be just double the amount of silver that will be found where beam of intensity 32 was allowed to fall, and so on through the series. One would naturally expect that when we came to print, the deposit under 32 would pass double the amount of light that passes through the deposit made by intensity 64. But this is not so, for the proportion is determined by the logarithms of these numbers, and the ratio, therefore, is as six is to five, so that in the print there will be very little difference in the appearance of these two squares. We can draw a few important conclusions from these facts. In the first place, we can see that the distance between the light tones in a negative, so far as printing quality is concerned, is not great by any means, and that by doubling the opacity by prolonged development we make very little change in the gradation in the high lights. This being the case, it follows that any attempt to judge of density by the eye during the process of development is very unsatisfactory because, if the difference of printing quality between an opacity of 32 and 64 be only one-fifth, then by doubling these opacities we will get 64 and 128, whose logarithms are 6 and 7, being to all intents and purposes the same ratio as before. Of course, the gain in the shadows is decidedly greater, but the point I want to make is this: does it seem probable that any human eye, viewing a negative at variable distances from a source of light that at the best is inconstant, can estimate the density of a negative from its appearance? The fact that so many poor negatives are produced every day by practical men is sufficient evidence of the unreliability of the ordinary method.

It is evident, I think, that the only way to develop a negative that will produce correct gradation in reasonable time is in a bath of definite strength, at a special temperature for a certain time.

Rochester, N. Y.,
September 29, 1904.

Photo-Beacon Co., Chicago, Ill.

Gentlemen,— Under separate cover we are mailing you copy of "In Korea With the Kodak," which is a reprint from *Collier's Weekly* of the very interesting article by their correspondent, Mr. Dunn. We shall be pleased to send copy of this little book, without charge, to any of the readers of your magazine who may ask for it.

Yours truly,
Eastman Kodak Company,
By L. B. Jones.

PHOTOGRAPHY AS A FINE ART.

(An Editorial Article from the *Burlington Magazine* for October.)

The exhibitions now open in London show how vast are the advances which photography has made during the last few years. One illustrates chiefly the convenience and capacity of the process for rendering natural facts in monochrome; the others prove that this literal rendering can be modified in innumerable ways by the operator's dexterity and taste, and the talent displayed may well make one ask if such results do not in some degree challenge the achievements of the older graphic arts.

Certain limitations will be obvious to eyes accustomed to look at good painting. The shadows, for example, are heavy and murky — a defect which is especially noticeable in landscape foregrounds. It is for this reason that snow scenes seem to make better pictures than any other class of subject. Again, a general monotony of surface texture damages the effect of even the most brilliant examples by neutralizing much of their vitality, and the general aspect of a collection of them is just a little depressing. Local color, too, seems to tell far more strongly than light and shade, so that the prints are rarely luminous. Natural obstacles, also, will interfere with designs that are otherwise good; awkward forms in landscape foregrounds, for instance, can not be manipulated with the freedom which a painter enjoys. In the case of portraits, where the lighting and the masses can be deliberately arranged, this disadvantage is far less apparent, and the results in consequence are of a far higher general average.

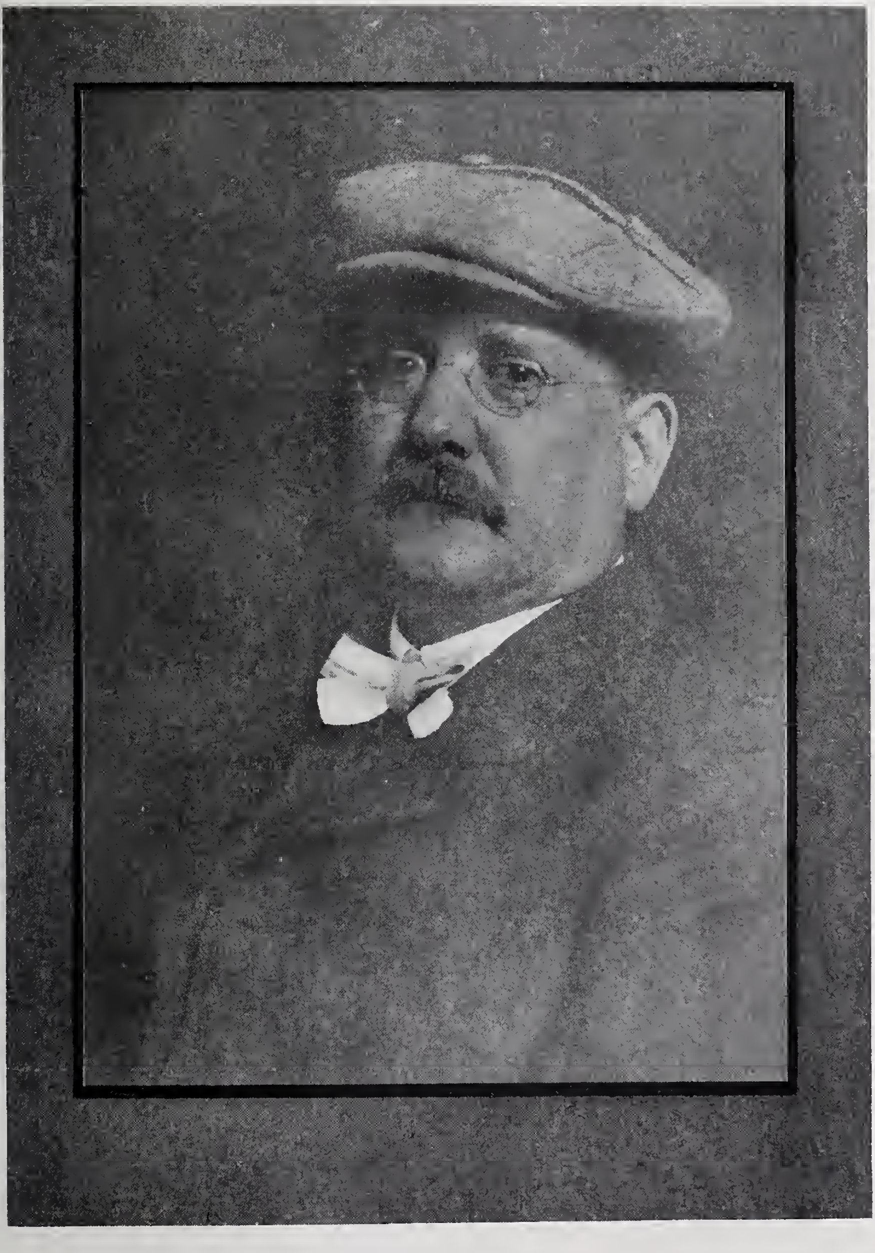
Even the most perfectly arranged photographs thus lack the quality, vibrancy, luminosity and vitality of fine painting, as well as its marvelous opportunities for creative design (i.e., the perfect freedom to select and to emphasize), for color and for human skill and sensitiveness in the workmanship; and it is difficult to see how these defects can ever be completely mended.

On the other hand, for every painter who succeeds in utilizing a tithe of the possibilities of his art, there are at least a thousand who do not, and our art schools are increasing this number at an enormous rate. These unfortunates can neither design, draw nor color well enough to produce a work of art, yet year after year they struggle on, hoping against hope, pushing forward products which crowd and embarrass those of better artists, are the despair of honest critics, and a source of confusion to an already confused public.

To those who thus possess the artistic temper without the artistic faculty, the camera now offers an endless vista of possibilities. It can supply them with powers of delineation such as their hands could never attain; it can free them from the nightmare pursuit of color harmonies, whose laws they can never master. All the enthusiasm and talent they possess is left free for discovering fine subjects and for composing them with taste and personality. Their energies, being restricted only by the resources of a medium which grows more and more flexible every day, may thus blossom at last into art of a quality to which as painters they could never aspire.

Of course, even the finest photography must always remain hopelessly inferior to fine painting, in its range, beauty and suggestiveness. Yet there can no longer be any doubt that good photographs are infinitely more dignified, delicate and powerful than mediocre pictures. The recognition of this superiority may not become general all at once, for bad painters will be slow to sacrifice the desperate satisfaction of remaining "real artists"; but come it must, and all good painters will rejoice at its coming.

The work now exhibited is, of necessity, no more than a faint prelude of the photography of the future, yet it includes already things which are more than promising. These are undoubtedly most effective on a large scale, and with the elaborate setting of the New or the Dudley galleries; nevertheless, the little plates in the kodak exhibition also deserve their modest laurel. To those who may be skeptical, we would recom-



Geo. T. Power, Chicago.

THIRD PRIZE.

mend the study of three photographs in the photographic salon's exhibition — the serene and stately Italian villa (No. 21), the portrait of Miss Sears (No. 34), a print that has almost the richness of mezzotint, and "The Edge of a Wood" (No. 80), which resembles closely the austere and noble conceptions of Legros. All may suffer to some extent from the conditions of their material, but its limitations have been concealed so well, and its capacities so wisely utilized, that we may not unreasonably hope for far larger extensions of this admirable art.

A LESSON FROM JAPAN.

Mr. Will Cadby's article concerning the wholesome influence that Japanese art might have on photography interested me immensely; it also set me athinking.

I have long been conscious of the influence that Japan has exercised on both Mr. and Mrs. Cadby's work; I can trace it in their unconventionally beautiful treatment of line; I can trace it in their disposition to interpret nature according to their own ideals. And, what is more, unlike some of the English draftsmen, the Cadbys have escaped the danger of imitating the superficial mannerisms of Japan, and have succeeded in assimilating some of the feeling of the Eastern artists and turning it out clothed in the garb of the West.

Undoubtedly Mr. Cadby has benefited by his appreciation of Japan, and since he advises us, also, to learn our lesson, his advice is worthy of our serious consideration.

But when we come to analyze Mr. Cadby's article, we find that he instances the color prints, and carvings, and netsukes, as examples of fine taste rather than fine art, which is exactly the status that the engravings and most of the carvings hold in the land which produced them.

Imagine a country in which the technic of art, the perfection of taste and the power of expression are hereditary. Picture the class which corresponds to our East End costermongers camping out among the orchards in order to make studies of cherry blossom. Imagine the fish hawker stopping on his weekly rounds to present the cook with a perfect impression from a wood block, perfect in design and color, which he himself had executed. Imagine the jobbing gardener writing a pretty letter of apology and explaining that he was unable to bank up the potatoes as he had received an important commission for book illustrations from Messrs. Bell & Co. Imagine all this and you have Japan.

Now, amid and beyond this universal reign of taste there is an inner circle of the purest art that the world has ever seen (an art that is practically unknown in the West), and this is the true art of Japan. Imagine the purest and noblest form of impressionism, an impressionism that always aims at expressing some lofty ideal and inspiring some elevating thought; an impressionism that would regard an impressionistic sketch of a damsel of no repute as the lowest form of realism, insomuch as it would be a suggestive realism, and you have the art of Japan.

To the cultivated Japanese, the depiction of the life of the streets and highways and tea gardens, and the portrayal of actors or the demi-monde, are outside the pale of art; if they have any status at all, they rank as "the school of the mirror of the passing world."

Turning to the color print, we find that the engraver is generally guilty of realism, which his educated countrymen rightly regard as intellectual vulgarity, and, however tasteful his work may be, it seldom rises above mere prettiness. If the Japanese artists had devoted themselves to engraving, the color prints of Japan would have been unique, but unfortunately wood engraving originated and remained in the artisan class.

Now, I do not profess to live up to the ideals of Japanese art — in fact. I confess to an admiration for the sketches of Phil May and the grotesques of Sidney Sime — but I acknowledge the ideals of Japan to be the higher life. According to Japanese ethics, the artist must receive some noble impression from his subject and suggest that impression in his picture. Thus, a landscape should not be a portrayal of nature, but an essay on nature calculated to raise some inspiring train of thought; and the motif would not be "through the woods," but "the mighty silence of the pine forest," not "swans and water-lilies," but "the purity of the lotus rising from the darkened waters."

Jos. Daggendorf, St. Paul, Minn.

Again, the picture must suggest the idea, without elaboration. There must be strength and virility (mark this, ye disciples of the cult of vagueness) in order to create an everlasting impression, but the artist must leave the completion of the theme to the imagination of the spectator, so that the spectator may become partner and fellow worker in the creation of the picture. Perfection in finish and detail excite admiration for the skill of the painter, but a painting that leaves something to the imagination excites sympathy with the picture itself. And, lastly, technical skill, decorative talent and selective taste are in themselves nothing, unless they are used as the means of expressing some elevated sentiment; and even Hokusai, with his perfect mastery over his materials, and his wonderful feeling of line, only ranks as a second-class artist, a member of the school of the mirror of the passing world.

Now, the inspiration of Eastern art is derived from Buddhism, and the inspiration of Western art is derived from

Christianity, and, while we may admire the ethics of Japan, we must realize that our own ethics are of necessity different. Our ethics in landscape work need not be dissimilar to those of the Japanese artists, but our motif in our pictures of human life must be widely different. For we realize the dignity of labor as truly as the Eastern realizes "the serenity of the sword." We understand the worthiness of the joys and sorrows and earnestness of childhood as fully as the dweller in those islands of chivalry understands the worthiness of "the stains of heroic blood on the robes of maidenhood"; and Alex. Keighley's "Grace Before Meat" is at least as noble in conception as any painting of "the tears which may be shed in his old age by the hero."

Our subjects are round us on every side, if we only cultivate our gift of sympathy; we can find them in the almshouse and the village school, in the field and factory; we can find them in the ever-varying moods of nature, and in the buildings that tell us their stories of the past. We, too, have our school of the mirror of the passing world, which is a school of no repute; we have it in Frith's railway stations and race meetings; in photographs of modern vergers entering abbots' doorways; of Norman pillars surrounded by dadoes of modern chairs.

There is a tendency among photographers, especially those of the American school, to take any subject that comes along, and strive by selective treatment and skilful handling to convert it into a picture. Hence we get uninteresting maidens, clothed in dresses showing the limitations of provincial dressmakers, and doing nothing in particular except sitting on the grass or standing in doorways; subjects that no skilful handling of tones and textures can redeem from the ban of uninteresting commonplace. We have impressionistic studies of ugly roof ends, and stupid palings the like of which the world would never have known if Columbus had died in infancy. If we could only learn from Japan that the subject must, in itself, be worthy of perpetuation, we should see the end of this particular line of photographic futility.

On the other hand, to Westernize the teachings of Sesshu and Sesson of Japan, art knows neither high nor low, noble nor refined. A picture of St. Agnes is no more important a subject than a simple flower study, as long as the flower tells us of the beauty of nature rather than of the skill of horticulture.

Dear Phil May, my allusion to your work seems to savor of contempt. I was merely referring to it from an Eastern standpoint. From our Western point of view, no artist has done more to promote human sympathy, and but for you we should never have understood and felt a fellow feeling for the class you loved to draw.

The quotations in this article are chiefly taken from "The Ideals of the East," by Nakasu Okakura, of Tokio, a most bracing book.—*The Amateur Photographer.* A. J. ANDERSON.

HOW TO ELIMINATE HYPO.

Washing alone was the order of the day in old times, and thirty years ago remaining in water all night was considered almost an essential. Now many "hypo" destroyers are in use, such as ammonium persulphate and other oxidizing salts. The use of such reagents is considered at great length in a contribution of Herr Pinnow to the *Photographische Rundschau* (July 15, 1904, p. 179), and although recognizing that persulphate and other eliminators may be useful when there is a scarcity of water, or when intensification or toning is to follow the fixation, he does not apyear to allow any advantage in the use of eliminators for work under other conditions.

HOW TO TREAT AN OVEREXPOSED PLATINUM PRINT.

Instead of throwing it away, wash it for about thirty seconds in ordinary water, until it begins to turn white all over; then develop and fix in the ordinary way.

AFIELD WITH THE CAMERA AFTER THE SNOWFALL.

BY OSCAR VON ENGELN.

With photographs by the author, and one by John Kabel.

If Christmastide heretofore has lured you away from the city to the old home, or perhaps included you among the number making up a house party at some country mansion, while you were enjoying the sleighing and the skating, confess were you not tempted more than once to find out just what the depth of winter had concealed under the overhanging boughs of the trees or up that ravine? Did you not have a wild impulse to ruthlessly break some line, some mark on the wide expanse of white, broad, trackless meadow? Yes, you had those yearnings, but you yielded to neither for you had no definite reason to urge you on. Had your camera been along, how different the situation would have been!

When the snow begins to fall and the trees and fences grow dim, every photographic corpuscle in my blood begins to dance, and the longer and thicker the flakes fly the merrier the step. No other event in nature's calendar is so fascinating as a snowfall; it is so swift, so noiseless and so revolutionary a changer of scenes. The spring has its charms — the elation which fills us at the thought of the new, sweet life which is unfolding all about us; the autumn begets our tenderest sympathies; we part with dear friends: both these are scene shifters, but each is an affair of weeks — months. All other changes of face which occur in the world of outdoors during a year are gradual; only the snow comes in a few hours, and goes as fast.

Therefore, start, some bright morning after a storm — put a kodak in your pocket or, if you are more ambitious, take a larger box with a tripod; be out to break your own path to meadow, field and wood — taste a new joy. No matter how cold it is, tramping in a six-inch snow on the level, with unsuspected drifts to flounder into and out of, will warm every drop of blood to a glow. The snow formerly bothered me by alternately freezing and thawing on my shoes, so that at the end of a tramp these would be literally cased in ice. But I found at a shoe store a pair of "snow excluders," the soles of which were of rubber and the uppers from light, water-tight Jersey cloth. They reach half way up to the knee and buckle snugly around the leg; and, by wearing these over my other shoes, I have perfectly warm, dry feet. Fitted with a pair of these, feminine enthusiasts may get snow pictures as well as their fraters and not suffer any discomfort.

GOLDENROD CLOTHED IN FROST.
Oscar Von Engeln.

We are at the fence which divides the meadow from the woodlot; as we climb over and look at our trail, we realize what monsters we are, especially when we compare these upheavals of ours with the light, dainty scratches which the little wood beasties have been making all about us. Some of them are scrapings made by the wings of little birds; our feathered friends are seeking covert near the ground these days among the weeds, whose seed-pods, rattling dry, are full of good things for them to eat. All these make good subjects for the kodak; little episodes of the woods well worth recording.

In breaking a trail through snow, one enjoys a very sanguine feeling of exultation at the thought of being the first human to come this way since the earth has been remade. The evidence is so conclusive — much the same must the explorer feel when his foot treads a hitherto unscaled mountain peak. At our every step we create a miniature wave with a scintillating crest, which tumbles in little clumps iridescent in the sunlight. Yet this thing of life and blood, our snow trail, is in common with all other trails a mystery as soon as we have passed out of sight. Strange this is; it is the one puzzle which may be called universal, which leads us all to attempt Sherlock Holmes' deductions. For who can see a trail made by man or beast in the snow who does not at once begin conjecturing how old it is, whither it leads and why?

But now we are in the midst of a hundred enticing subjects for the lens, and each one, it seems, is more beautiful than the other. As our supply of films and plates is limited, we are compelled to choose, and in the choosing we often wonder if perhaps the thing rejected is not just a little better than the one of which we make an exposure. Here by the stream are the dry stalks of golden rod. The night has been cold and the frost has clothed the delicate tracery of stems with a still finer lace of white. Along the banks, where the big trees hang their dark limbs over the slow-moving waters, the frost has worked the greatest change; we seem to be looking through some magic mirror into a new country such as we might read of; as an enchanted land in some fairy story. The same silence which characterizes such is here, too.

Every weed clump boldly waving its tops over the snow has taken on an individuality of its own, so boldly are they marked out on the white sheet. These are clumps of trees in miniature, and I could not resist photographing one which might have been a group of dead hemlocks had the individuals been enlarged a thousandfold. The trees themselves stand out bold, black and strong, marks by giant fingers on one big, white page.

Curious pranks do the artisans of winter work with their material at times. Here they have fashioned an ice-broom,

Oscar Von Engeln.

using the twigs of an overhanging limb for the framework. It sweeps clean the river's unconquered flood. Each turn of the brook is deserving of a plate! Fed by warm spring waters, it has kept open and free from ice, and the waters, all too often white paper on our summer negatives, now offer the shade so helpful in making up a picture, when the snow has fallen.

How we do appreciate those lines which are given us by the shadows, which the sun so sharply outlines on the snow. On line and tone we must depend entirely in photography; color hinders rather than helps. Here we have line at any rate unstintedly, unadulterated and novel. Only in the water can we get such sharp shadows and in that case they are mostly reflections. Water is such a treacherous element; it swallows up everything! Here on the snow, however, we have shadows, clear-cut lines, and almost every one is drawn in the right direction, helps to build up the picture. What can be more beautiful than yon rail fence climbing up over the hill; its every rail capped with snow and its zigzags repeated if possible even more artistically at its foot.

If the broad panorama which is spread before us in dazzling purity of white and black is beyond the scope of our cameras, the feast is yet for our eyes, and though only of worth to ourselves we get a mental picture which will soon fade.

At our backs, in the valley below, nestles the cosiest of farmhouses. Under the branches of a big willow, protected by the slope from the wind, it seems truly ideal. Yet on approaching, we see that no path has been broken through the snow and that the pegs by the spring house, on which the milk jars were hung in the sun, are peakedly bare. The doors are open; the house is deserted. Why? There is no answer.

The shades of evening are falling long; already the wind is preparing for his night attack; we wend our homeward way, more tired than when we set out, but also more happy, and seeing already in anticipation the fine prints which will result from our day's effort.

AN ARTICLE FOR NOVICES ON THE RENDERING OF ATMOSPHERE.

The rendering of night and evening scenes has an irresistible fascination for every photographer who owns to a spark of pictorial feeling. This is altogether as it should be. But the results are not invariably very convincing. Somehow they are unsatisfactory — both to the "impressionist" and to the "true to nature" critic. They fall between two stools.

But after a while the photographer gets so accustomed to their defects that he sees them no longer. How many of us, for example, picking up a typical photograph in a seaside news-agent's shop, say of fishing boats against a sunset sky, realize that such a scene never existed, and never could have existed: and that it is hopeless viewed even from the extreme "truth does not matter as long as we have beauty" standpoint? The sails are clear-cut silhouettes against a track of Chinese-white waves. The clouds, except where the sun sends a sheaf of rays through them, are as solidly somber as the sails. The sea, where it is not glittering like a million arc lamps, is literally ink. The shore, or cliffs, or pier, or what not of foreground are ditto.

This, mark you, is supposed to represent "Golden Sunset," or "The Fires of the West," or (worse cheek still) "Moonlit Waters," or some highly poetic notion of that sort. But *does* it? Not a bit. It is neither sunset nor moonrise; neither fish nor fowl nor good red herring.

Go out any evening, and you'll see why. There are no such blobs of blackness in nature. At least there are no such blobs of blackness within fifty miles of such blobs of whiteness. On certain nights you may discover fishing boats' sails looking as dark as these; but never in conjunction with a sea as glittery as that. Or you may find a sea as glittery, but not with a sky so black.

I have no quarrel with a man who labels a photograph "Moonlight" (though I know he could not have taken it when the moon was shining) as long as it gives me an impression of moonlight; but if it only gives me an impression of cardboard scenery and cloth clouds with a hole in them for the moon, then I protest. Because I feel he is trying to palm off a failure on me as a success by the trick (Oh, that old, old trick!) of a grandiloquent title.

People are not going to stop taking evening scenes against the light simply because a few ultrasensitive souls protest that the tone values are wrong, however. So the next best thing to groaning will be to try and give a few tips as to how the faults may be remedied.

The first thing that the camera tyro must get into his head is that no scene in nature, be it seascape or landscape, or any other mortal variety of either you can name, is totally without "atmosphere," whether by night or by day. That is, in between the camera and any given object there is, so to speak, a layer of air. The further off is the object, the thicker is the layer of air. The eye sees the layer of air, or rather, sees the effects of its presence; but the camera does not always record it. The "perfect negative," which we are taught (and rightly taught) to aim at to start with, often shows no trace whatever of the layer of air. Every object in the picture is sharp and clear-cut. There is no softening of edges; no deepness in the shadows; no sense of infinity in the sky. The hills half a mile away are as clear and niggling as the bushes a few yards distant. The waves at the beach edge are as bright as those on the remote horizon. Except that common sense assures us that the small sail must be further off than the big one, we would hardly know it was if we judged by their respective distinctness in the print.

How is this to be remedied? How are we to induce the camera to record the layer of air?

One way — the simplest of all — is only to take photographs on days when the layer of air is so marked that it absolutely *must* show. No lens can leave out the layer of air on a really foggy day, however hard it tries. But to be compelled to confine one's pictorial operations to foggy weather would indeed be a confession of feebleness. (All the same, I suspect not a few otherwise blameless pictorialists of giving way to the temptation. It's so awfully easy to get "effects" when there's a mist.)

In clear weather there are various means of forcing the camera to register the layers of air. (For, mind you, even in the clearest days there is atmosphere; except, of course, in climates with which notes of this sort do not pretend to deal.) In the first place, the avoidance of using a small stop is a great help. Stopping down to thirty-two is enough to produce a vacuum in any fairly brightly-lit landscape; where a full aperture with the same lens and the same focusing would have preserved every molecule of air within sight. And the mere use of a full aperture does not necessarily mean fuzzifying your picture, though the extreme technician may sneer that it does, and try and persuade you that you have got it "out of focus." It is far more truly in focus, as a matter of fact, than his F/32 atrocity, which has minutiæ of detail in it that were not visible to the human eye at all. Focus sharply on some principal object, by all means; but when you have done so, don't try to get every other object microscopically in focus too. If you do, you will lose your precious layers of air.

In photographing scenes such as we were talking about at the beginning of the article, where the camera is facing the light, there ought really to be no difficulty whatever in getting atmosphere. The lighting alone would give it, if it were not prevented from doing so by that evil habit of stopping down. But, although there would be a certain amount of atmosphere, the picture would still be a little wrong, because of the extremes of lightness and darkness (e. g., the glitter on the sea and the solid blacks of the sails or the clouds.) It needs some after-treatment then. Here is one of many dodges by which the whiteness of the whites and the blackness of the blacks may be remedied.

Print not quite so darkly as you wish the final result to be. (For the sake of convenience, I shall suppose that platinotype is being used.) Remove the print from the frame and expose it to the light without the negative in front of it. When it is ever so slightly fogged all over, it may be developed.

Only by actual experiment can you find how deep to allow the fogging to go, in each instance; but in no case ought it to be so deep as to be detectable except by a skilled critic.

This is a fakement which is as ancient as the hills, but may be new to some readers. I do not defend it as "artistic," or from any other point of view. I merely state that it will redeem many an otherwise crêpe-and-whitewash evening scene and make it presentable.

WARD MUIR.

ALSO HERE.

WE were asked through the post the other day a question of which this is the summary. "I am thinking of going into business as a photographer — what size camera and lens should I buy? Do you recommend me to get a tripod or a stand on castors?" What other profession, save that of a writer, would a man think of taking up in this astounding condition of ignorance. Imagine the editor of the *Law Times* getting a letter saying, "I am thinking of becoming a lawyer. Do you advise the purchase of a full-bottomed or of an ordinary wig? Is it true that there are no police courts in the big building in the Strand?" Chemists, dentists, grocers, butchers, bakers, all by the time they are thinking of going into business for themselves, have at least served such an apprenticeship as shall enlighten them on the most elementary facts connected with the profession they propose to follow. But when everything else fails, the man who has not tried it believes he can turn to the camera and make a living by its use. It may be safely said that under no circumstances does he do himself any good by so doing, unless we count the negative good of finding himself wrong. But this spasmodic and fictitious competition does harm to an entire and deserving profession.—*Photography.*

A TURN OF THE BROOK.
John Kabel.

FACT AND FANCY IN ART.

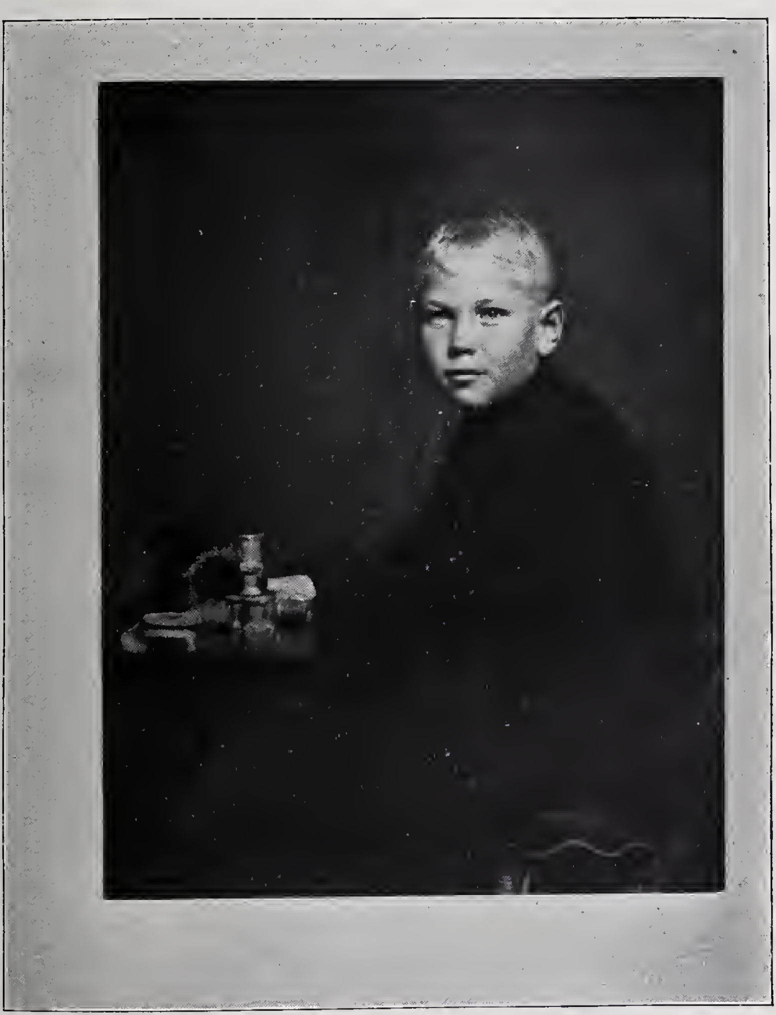
To capture and analyze so joyous, free and elusive a thing as imagination seems something of an outrage, like pinning down a butterfly. All who are gifted with imagination — and these must include every one who feels the artistic impulse, whether it lead to the purchase of a camera or to a place on the walls of the Royal Academy — are content to rejoice in the possession of such a faculty, and to draw from it as much delight as they may, for the most part without troubling about its nature or considering how they may best turn it to their own advantage. This is a happy state of mind that may do very well for such as have no definite purpose in view, but many readers of the *Amateur Photographer,* as I am well aware, have a serious intention of searching the artistic possibilities of photography, and they have in the faculty of imagination, if properly directed, a most valuable auxiliary to successful achievement. Artistic training is not everything, and a lively imagination will go far toward compensating for deficiencies in that respect, but the imagination must be kept within bounds. There have been many artists, like Segantini, who have had no instruction, and whose imagination has been the chief factor in their success. Of course every one can not be a genius, but an inventive fancy, combined with earnest effort and steady will, often produces acceptable pictorial work even without the assistance of art schools, and in photography it is the appreciation of fundamental principles rather than artistic practice that is required.

As the result of the persevering experiment that has been devoted to the medium, it seems now to be in a marked degree adaptable to the varying phases of imaginative expression that necessarily appertain to its individual exponents. Hence it is peculiarly desirable that consideration should be given to the play of imagination, so that those who hope to exemplify it should have a clear idea of its relation to art. At the same time it should be understood that imagination should not be too consciously exercised. It is an impulse from within, and any intentional effort to bring it into activity will defeat its own object by leading to artificiality and eccentricity. The call of imagination is not to be mistaken; it is either stimulated by the scene which it is proposed to depict or it is not, and if it is not, one may as well, so far as the prospect of an artistic result is concerned, pass on to "fresh woods and pastures new."

But firstly, in order to get at the root of the matter, it may be well to inquire, "What is imagination?" I am not going to look up a dictionary definition and inflict it on my readers, for I am now only concerned with the word in the special sense, that is to say, in its application to artistic expression. Imagination may be of many kinds, but it seems to me that the most potent for the purpose in hand may be described as a sense of oneness with nature in the scene under observation. Every artist must be familiar with this sensation, and the more highly his perceptive faculties are cultivated the oftener will he experience it. It is as if nature is speaking to him, and he understands and responds; and when so intimate a relationship is set up, he may undertake the task of interpreting her message with confidence. But in the interpretation he will express himself — not consciously, but inevitably — and thus we get "nature seen through a temperament," that close union of man with his environment that is essential to art.

Now, imagination of the kind I am describing is not a mere chance thing that may happen to some, like an unexpected legacy, and not to others. It is a heritage from the ages, and if some get more and some less, this is only in accord with nature's ways. It takes us back to the primeval time when man lived in such intimate association with nature that he was indeed one with her. So if the artist by a flash of intuition can recall that sense of intimacy he awakes in others a dormant sentiment, and thus his picture makes its appeal. A very clever writer, Mr. T. A. Cook, in his book on Turner, finds in such atavism an explanation of the growth of the sense of beauty, and I am not sure that I have not also met with the theory elsewhere. This, however, is by the way. I wish to make these remarks useful to the novice, whose sensations will not be so acute as those of the trained and experienced artist, and I will ask him, therefore, if he has not sometimes met with a scene that has strangely aroused in him a desire to obtain its pictorial record. If he has, and I do not doubt his affirmative reply, it has been through the stirring of that particular phase of imagination with which I am dealing. He may have appreciated lightly, exposed a plate, and gone his way; but if in time he should become devoted to art, he will know the value of such a mood, and will permit it to absorb him utterly. His imagination will be stimulated by the scene, and, if he can retain the impression, there will be the play of imagination in his picture also.

This matter of remembering and conveying the original impression is of the greatest importance, for it is this impression that makes the picture interesting and brings the artist's imagination into the work. Once obliterated, there is no substitute, and any playful fancy subsequently evolved as a makeshift can only be trivial, even if it is not absurd affectation; while if we merely rely on precise representation we only achieve the commonplace. The element of imagination, as called into being by the first impression, is the one thing that can give the work vitality, therefore it will be well to let this impression, with all its emphasis and selection, sink deeply into the mind and to endeavor to remember it vividly.



THIRD PRIZE.

There is imagination of another kind more nearly connected with the title that I have chosen for this paper. It is the dressing of fact with fancy, the building up of pictures from various sources in order to construct an imagined scene, the "remolding nearer to the heart's desire." Needless to say it is a most dangerous expedient, and one that will almost surely lead to hopeless disaster, except in the hands of the very experienced. But no one can say that it is not a legitimate form of picture-making, for there are plenty of examples of it by the best artists. It offers the greatest scope for imagination and the fullest opportunity for artistic arrangement. The fundamental design of lines and masses is at the discretion of the artist, nothing that is not helpful to the idea need be included, and the main theme may be accentuated with all the force of which art is capable in combination with the most appropriate and decorative treatment. Only the artist who is thoroughly conversant with nature, and has a large fund of observation to draw on, can hope to accomplish such a work successfully. We can not all emulate Turner. But my object is to consider the kind of imagination that is necessary for a composition of this sort, and I should say that it is mainly a poetic invention that can create for itself a scene that is truthful, not because it is like any particular manifestation of nature, but for the reason that it embodies and reconstructs such essential facts as nature herself might combine. Thus at its best such a work may be regarded as one of the grandest of artistic possibilities, for it adapts the essence of nature to the fullest requirements of the principles of art. But the practical difficulties that stand in the way are sufficient to deter all but the boldest and most skilful. No doubt the parts that go to make up the whole may be taken separately from nature at different times, but then the imagination is called on to depict them as they would all appear under one aspect, with the many modifications of light and tone that would be necessary to bring the details into unity with each other and with the sky. The imagination that has such an onerous duty to perform must evidently be informed by accumulated experience in an exceptional degree. However fanciful, the work must be strengthened by fact. Imagination alone is useless, precise representation alone is useless; but fancy may give value to fact and fact to fancy.

Though imagination and fact are necessary to each other, the artist should give his imagination scope, and should not fear to let it stray away from fact within certain limits. So he will cultivate selection, emphasis, and the modification of details that they may fall in with his scheme of composition; so also he will give effect to the individual sentiment or emotion that he desires to convey. His imagination need not be always circumscribed by the scene as it is, and he may allow himself a suggestion of what he would wish it to be, and if he only adorns his facts and does not distort them, the greater is his honor. Indeed, the imagination of the artist needs only to be bounded by a reverence of nature and a regard for the conditions necessary to art. I have endeavored, inadequately no doubt, to suggest the leading functions of such imagination, and it may be useful in conclusion to direct attention to what I may term a misconception of what constitutes artistic imagination, for in this way we may the better appreciate its boundaries.

Artistic imagination, then, has nothing to do with what is apart from the mere visual aspect of nature and from decorative composition. It may translate appearances according to its impulse, modifying, simplifying, selecting and emphasizing as it lists, so long as it continues in touch with artistic requirements, and confines itself to the representation of things that may be appreciated solely through the sense of sight. But if there is any attempt to introduce sentiment of another kind — human passion, joy, pathos, tragedy — this is not a manifestation of pictorial fancy, and should not be confused with it. It is the importation of something from outside the confines of art, and however it may be admired, it must to some extent be detrimental to artistic purity. I do not now wish to enter into such debatable matters as the question of "literary" painting, the telling of a story in a picture. Whether this is right or wrong does not concern me here, and I am quite aware that there are those who can argue with much plausibility that there are no limits whatever to the functions of art. I am now only endeavoring to draw a distinction between the kind of imagination that belongs essentially to art and the extraneous fancy that may import something into it which is not absolutely necessary to its existence. The importance of the distinction must be evident when we consider that without the one quality a picture can not be a work of art, whereas the absence of the other will not diminish its value. So when you see a so-called imaginative work, you may sometimes be inclined to reflect that the imagination is not that of the artist but of the dramatist or littérateur. Each has his own kingdom, and though there may be some give and take between them, it would be a useful practice to beat the boundaries now and then.

Pictorial fancy produces idealism at one end of the scale and realism at the other. In the one imagination preponderates over fact, and in the other fact preponderates over imagination. These are the extremes which in art, as in everything else, are certain to arouse hostile criticism, and the artist who makes the widest appeal will assuredly be he who finds a happy middle course and holds the balance so that actuality will not be neglected but will be beautified by imagination.—*The Amateur Photographer.* ANTONY GUEST.

THE SILVER "GRAIN" IN PHOTOGRAPHY.

In the *Astrophysical Journal* for September, appears an article by Mr. R. James Wallace, F.R.A.S., on this subject, that is both interesting and instructive. Mr. Wallace is well known to readers of this magazine on account of at least two series of articles he wrote for it, the first being on composition, with especial reference to portraiture, the more recent one being on isochromatic photography. He is now on the staff of Yerkes observatory and has, during the past year, devoted much time and effort to the problem of fine grain in nega-

YON RAIL FENCE CLIMBING THE HILL.
Oscar Von Engeln.

tives, a most important subject to astronomers, as all their negatives must be considerably enlarged, the limit being where the structure of the image begins to show. The ideal negative for an astronomer is where every grain of silver is distinct from its fellows, and many theories have been advanced as to how best to secure such a desired-for result. Many have given the credit of fine grain to a particular developer, while others have advocated slow or dilute development as being the best means.

Mr. Wallace's experiments seem to show that the first action of the developer is to precipitate the silver as individual grains and that, as development proceeds, these unite to form what he calls "group particles." He concludes that rapid development is the best means of obtaining fine grain and that slow development produces coarser grain. He also shows that when enlargement is to follow, the original negative should not be intensified, as intensification unites individual grains into group particles. The article is profusely illustrated with photographs of grain structure, on each of which will be found the micrometer scale taken along with the silver deposit so that there can be no dispute as to the accuracy of the measurements.

THE INQUISITORIAL SYSTEM.

You have all read, I presume, of Torquemado, the great inquisitor of feudal Spain, who succeeded in terrifying all who came within his reach.

He is long dead and buried, and saner and more liberal ideas have superseded the flagrant injustice and unscrupulous condemnations of the darker ages. Our more enlightened age has outgrown espionage, officious interference, mysterious sessions, mock trials, tortures and *auto-de-fés*. Yet fanaticism and intolerance seem to be somehow inborn in human nature, and now and then, as history proves, they crop up unaware and for a short time endeavor to repeat their reign of terror.

Even we, in our little world of sun pictures, can cite such a sad reaction. For what is the Secession but an organization of pictorial inquisitors who have set themselves the task to correct all misbelief in their supreme and self-invested power. They alone know what true art is. They established a holy office which persecuted and suppressed all those who did not share their opinion; and in their eyes all were heretics who did not believe implicitly in their omniscience. Any man who professed an art theory contrary to theirs, who loathed the worship of one man, who did not believe in art for art's sake, in tonality, in fastidiousness and exclusiveness, was under suspicion. Led by their hunger for notoriety, and guided by their fanaticism and intolerance, they usurped their power beyond all reasonable definition.

When William B. Dyer entertained the idea of a Secession movement, he — honor to him — did not think of a regular tribunal, but Torquemado and his legate from Milwaukee considered a stricter thumbscrew organization necessary. They wished to draw their own selfish advantages from the institution. They were eager to profit from "inartistic sources" and always arranged it so that the chief spoils fell their way.

One can trace absolute injustice of the organization in every page of its history, and one must but wonder that photographers could have endured its existence.

Every one of their exhibitions was a *sanctum officium*, a wholesale condemnation of heretics. The jury was invariably a farce, a shameless union in one person of principal exhibitors *entrepreneurs* and judges. A haphazard glance in this or that direction, among stacks of pictures, and the work of some heretic, perhaps the work of years, was doomed. In secret session they were excommunicated, the condemned man's robe was thrown over them and they were left to slink home as well as they could. All exhibitions were henceforth closed to them. The green and gray magazines ignored their existence. They were immured for life; and there was no redress for the shattered victim from this ingenious cruelty. The inquisitor generals had to be cruel to be kind (to themselves) or there might have been suspicions as to their own orthodoxy.

No wonder that some aspirants to fame became penitents. They were singed by the straw fire, i. e., a mild form of torture, and did not wish to go to the stake and be burnt entirely. They did not wish to have all connections from the outer world entirely cut off from them, and so they became "reconciled" to the inevitable.

The Secession, of course, was in need of converts, of souls saved. They wished to strengthen the compactness of their wicked union. Thus the penitents were allowed to enjoy the charities of the holy office. Torquemado tickled them under the chin, patted them on the back and condescended to give them the permission to extend their influence as little local inquisitors whereever their domicile happened to be.

Alas for the cruel "tender mercies" that were inflicted upon these poor pictorialists, who sat trembling in the audience chamber of the holy office. They were really worse off than the outspoken heretics.

The inquisitor generals never ceased to preach their own greatness, to teach them the doctrine of infallibility and to instruct them in pictorial conduct and morality. The tailenders had to submit to endless visitations and tribulations and were never represented by more than three or four pictures in an exhibition. Think of talented workers like Bennett, Wilde, James, Willard, Rose Clark and Elizabeth Flint Wade being treated in such humiliating manner. The holy council held a lien on all their pictures and showed just as many of them at Vienna, Paris or elsewhere as they considered fit, without consulting the artists. Independence was absolutely denied to the tailenders. The

Oscar Von Engeln.

synod stood over them at all times as a superior power.

This naturally fostered a little sense of wrong. The allegiance of these tailenders to the organization was naturally one of compulsion. Between them and Torquemado and his bishops smoldered a perpetual grudge; and now. as some heretics have proclaimed a new era, there will be — mark my word — a general breaking away in the ranks of the tailenders.

Then the holy office will reap the harvest it itself has sown. The teeth will be gone and it will be able to do little but show its obstinate yet powerless and hopeless will. The inquisitorial system will be driven into the council of the Secession, where it rightly belongs.

And the Torquemado of American photography in his *naivete* will probably say like Isabella of Spain, "I have caused great misery among pictorialists; I have crushed young talents and suppressed able workers, but I have done it all in the love of myself and pictorial photography," and will wonder why his tender mercies are no longer appreciated.

Pictorialists throughout the land will begin to breathe freely. No longer are they induced to worship at the shrine of vain idols; they can go forth like men and women boldly into the light of day.

The machinery has come to a stop. The day for royal tribunals, for qualifying codes and formulas, for papal permissions and blessings, has past.

And you tailenders, who sit on the fence, I can offer you one honest advice: break away from the holy fold with its self-laudatory aims, its pictorial fanaticism. its cruel stringent measures. Weep a tear if you must over Torquemado's downfall, over the vanity of "his faithful diligence to banish and drive away all erroneous and strange actions contrary to his word," but break away before it is too late. CALIBAN.

THE sharp-focus competition is drawing nigh. Don't forget that what is wanted is proof that it is possible for a sharp photograph to be pictorial.

AMERICAN FEDERATION OF PHOTOGRAPHIC SOCIETIES — HISTORICAL SECTION.

One of the very important features of the new American Federation of Photographic Societies is to be a historical record section. Of course, the most interesting work that the Federation has in hand is the encouragement of pictorial photography. This is obtained by a combination of forces by means of the coöperation of all of the important photographic societies of America. The federation is not limited in its usefulness to the United States, as the Toronto Club, Canada, is one of the original members of the federation, and it is likely that other important clubs will become affiliated with it, including probably the Camera Club of the city of Mexico, whose representative the officers of the federation became acquainted with while on duty as members of the international jury at the St. Louis Exposition. This is mentioned now on account of the very important historical photographs which could be obtained by the Mexican society, with its pictures of Aztec and Toltec ruins, and illustrations of manners and customs surviving from the earliest civilization on this continent.

The plan now under consideration is to have an important scientific society take charge of the work of gathering interesting photographs of a historical nature, through the coöperation of all of the societies which now compose the federation, and of those which may hereafter belong to it. These photographs should be obtained in duplicate, one copy being retained by the institution as a valuable permanent collection, and the other set to be made up in a portfolio and catalogued, to be sent in turn, in a systematic manner, for exhibition through all of the societies composing the federation. The organization which now has this important feature under consideration is the Franklin Institute of Philadelphia.

There is also a still larger project under way, and that is, to open negotiations with one of the big Government institutions in the city of Washington, such as the National Museum or the Congressional Library, and in case such arrangements were made it would be necessary to secure a Congressional appropriation for carrying on the work in the best possible manner. In that case, it would be understood that, if the Franklin Institute takes the matter up at the start, its officers would either coöperate with the Museum or the Library in Washington, or else it would turn over the full charge to either of the latter.

In the meantime, it is well to consider everything, so as to make the Department of Historical Photography as efficient and complete as possible. It needs no argument to convince every one who is interested in the history of this country, no matter how little interest he might take in pictorial photography, that it is important to secure, at the earliest date possible, duplicate prints from the thousands of negatives that have been taken, to illustrate old buildings, famous people, quaint customs, battlefields, ancient or aboriginal ruins, etc., and to have these prints so classified that one set of them can be exhibited through all of the important cities of the continent, and the other set catalogued and arranged in the safest and best possible manner.

The officers of the American Federation, therefore, request the immediate and earnest coöperation and interest of all who are willing to aid in this important work, and they will gladly receive suggestions from all persons who may read this. These ideas may be either in regard to the method of conducting the work, or in regard to the best places for obtaining the pictures which will be required. The officers also invite all persons who have pictures of this character to forward duplicate sets of them, with the best possible information, dates, etc., either to Mr. Curtis Bell, president, 558 Fifth avenue, New York city; Mr. Charles E. Fairman, second vice-president, 1004 F street, Washington: Mr. F. Dundas Todd, third vice-president, Security building, Chicago, Illinois, or to me, first vice-president, 1628 Chestnut street, Philadelphia.

WALTER ZIMMERMAN.

LETTERS TO THE EDITOR.

DETROIT, MICH., October 8, 1904.

Mr. F. Dundas Todd:

DEAR SIR,— An article appeared in the September number of your worthy journal, by Mr. James Thomson, entitled, " Critics and Criticism," in which the writer gives voice to what is, in my estimation, an erroneous idea, namely, that only those who are possessed of the ability to produce creditable pictures themselves have any right to criticize others. If the idea he intended to convey is, that only such criticism should be seriously regarded as is conscientiously made by a person schooled in the laws of art, and fully able to appreciate what does or does not constitute a successful picture, we shall not quarrel with his statement. But to baldly assert that he, and only he, who has learned the technic of an art, and is himself enabled to produce works as good as those he purports to criticize, shall be regarded as a capable critic, seems to us fallacious and untrue.

Criticism is an art which calls upon the analytical faculties of the mind, which the ability to *create* a picture does not necessarily demand; and if the analytical faculty is not demanded it is evident that all artists will not possess it. Does it follow, then, that an artist will make a good critic? It is true that a good many artists do, but it is also true that a great many *do not*. I will admit that the better an artist is the more likely he is to possess this faculty, for the practice of art is especially conducive to its development, but theoretically it is not necessary, for the functions of art are creative, pure and simple, while those of criticism, on the other hand, are analytical — a reducing of a work to its elements, that its faults may be espied and thus the road to perfection pointed out.

With this difference in mind, it will be readily seen that if one is temperamentally fit, and is well grounded in esthetics, he ought to make a capable critic even though he be entirely unfamiliar with the technic of the various mediums of expression at an artist's command.

J. CLYDE WILSON.

LIST OF AMERICAN AWARDS IN PHOTOGRAPHIC SECTION AT WORLD'S FAIR, ST. LOUIS.

PHOTOGRAPHIC EXHIBITS.

Grand Prizes: Bennett, Mrs. Jennie E., Baltimore; Strauss, J. C., St. Louis.

Gold Medals: Dobbs, B. D.: Eickemeyer, Rudolph, Jr., New York city; Elson, A. W., & Co., Boston, Mass.; Goldensky, Elias, Philadelphia, Penn.; Knaffl & Bro., Knoxville, Tenn.; Parrot, Geo. J., Fort Wayne, Ind.; MacDonald, Pirie, New York.

Silver Medals: Baker Art Gallery, Columbus, Ohio; Beattie, Hitcheller; Byron, New York; Cook, Helen W.; Homeier & Clark, Richmond, Vt.; Latimer, H. A., Boston, Mass.; Parrish, Misses; Petzold, A., Philadelphia, Penn.; Proctor, A. T., Huntington, W. Va.; Wilhite & Hollaway, Indianapolis, Ind.; Fleckenstein, Louis, Faribault, Minn.

Bronze Medals: Bowman, Edgar L., San Francisco, Cal.; Gerhard Sisters, Saint Louis, Mo.; Giffin, J. E., Wheeling, W. Va.; E. F. Hall; Keller, Lee Hamilton; Koehne, W. L., Chicago; Meyers, Horace C., Boise, Idaho; Notman Photographic Company; Pike, C. C., Indianapolis, Ind.; Schervee, H., Worcester, Mass.; Winslow, Homer; Van Norman, George, Springfield, Mass.; Hearn, Charles W., Boston, Mass.; Kellmer, J. W., Hazelton, Pa.; Brenner, W. N., Cincinnati, Ohio; Mrs. Pearce, Waukegan, Ill.; Chas. A. Hoyle, Boston, Mass.

THE DEFECTS OF GLASS.

In the wet collodion days, when glass plates were frequently used for many negatives in succession, it was a by no means uncommon experience to find a previous subject faintly rendered on a new negative, owing to the disintegration of the glass or the penetration of chemicals, and it was common knowledge that there was more tendency to this recrudescence of old images when patent plate glass was used than when a glass with a natural or fire polished surface was employed. The *Barnet Photographic Record* (September, 1904, p.5) touches on this subject, and attributes many of the mysterious markings and "spirit portraits" on negatives to the use of old glass, and in the course of the article says: "The idea that glass is perfectly inert and insoluble is one which it is very hard to banish. We are so accustomed to fill a glass with water or other liquid, empty it, wash it out, and dry it, and regard the glass as unaffected by the process, that it comes as a positive shock to learn that it is impossible to dip a glass in water without some — the merest trace, it is true, but still a trace — of it being dissolved."

TO BLACKEN BRASS.

A.— Nitrate of silver, 120 grains; water, 5 ounces. B.— Nitrate of copper, 120 grains; water, 5 ounces. Mix in equal quantities sufficient to cover the piece of metal which has to be blackened. Cleanse the brass of all grease in hot soda water and dip in the above solution, then heat it in an oven until black enough. R. H. A.

HOW TO PRODUCE COLORED PHOTOGRAPHS OF FERN LEAVES.

Mr. A. R. Porter gives the following details of how to arrange leaves and produce pictures of Nature's coloring. "This," he says, "is how I proceed: From my collection of leaves, I select those combining beauty of form with transparency, and arrange them in designs according to taste, fixing them with gum on very thin paper. When dry, I wash off with a small brush and cold water any gum that may appear on the surface. To give the paper a rich appearance and make it transparent, I coat the back of the design with a solution — castor oil, methylated spirit and sulphuric ether, in equal proportions. I then press the design between two pieces of blotting-paper. When thoroughly dry, I place it in a photographic printing frame (to which glass is fitted), with the leaves uppermost. On the leaves, I place a sheet of printing-out paper, with, of course, the sensitized side to the leaves, close the frame and expose to the light.

"Leaves take two or three days to print unless the sun is strong. They should remain until apparently overprinted. When I think the photograph of the design is ready, I take it out of the frame and put it in a bath of hypo for ten or fifteen minutes. This bath soon disposes of the overprinting to which I have referred. No toning is necessary, but after the hypo bath the photograph must be well washed in cold, running water for at least an hour. No camera is required. The first photo produced will be a negative. A positive is got by using the negative in exactly the same way as the design was used.

" My friends who have seen the pictures are astonished and delighted with the revelation of the beauties — generally hidden — of a faded leaf."

ANTI-HALATION PLATES.

The subject of halation is perennial. The beginner in photography soon gets acquainted with it, noticing the fading away of the detail at the margin of foliage against the sky. Then when he tries portraits against the sky, or when windows show in an interior view he finds the face in the one case very dark, and in the other that a bright halo surrounds the window.

Jas. E. Taggart, Delaware, Ohio.

There are many causes of halation, but the most effective one is the reflection of the light rays that have penetrated the film and reached the back of the glass. They return to the film, but at a different point from that by which they passed through, hence the fogging effect one so often sees. To prevent this form of halation, the rays that reach the back of the plates must be absorbed, and this is done in various ways, the one most generally known being to coat the back of the plate with some substance that will absorb the actinic rays and thus prevent reflection. The operation is rather a mussy one, and so very few people care to tackle it. In the Agfa isolar plate, a red-colored layer is introduced between the glass and the sensitive film, which layer absorbs all the actinic rays and thus prevents the reflection and consequent halation. This colored layer readily disappears in an acid fixing bath, so there is no extra trouble in handling these plates. For special work, the isolar orthochromatic plates will be found serviceable, as they possess orthochromatic qualities and at the same time are free from halation.

EDITORIAL TABLE.

"In Korea with the Kodak" is the title of a pamphlet issued by the Eastman Kodak Company which is, in fact, a reprint of the article in *Collier's Magazine* referred to in a recent issue. It can be procured at any stock-house free of charge and is certainly interesting reading.

Taylor, Taylor & Hobson, St. James building, Broadway and Twenty-sixth street, New York, announce that they have just designed two new series of Cooke lenses to meet the demand for ultra-rapid anastigmats. These have the large apertures of f-5.6 and f-4.5 and are therefore designed for high-speed photography and for fast portrait work, being available for trying conditions, such as dull days. Full particulars will be sent on application to the firm.

From G. Gennert, 24 East Thirteenth street, New York, we have received the latest catalogue of photographic apparatus and supplies issued by the firm. This is one of the most complete issued by any concern, for it covers very thoroughly not only the ground in which are interested the amateur and professional photographers, but also the process-worker. Every one will be interested in it, and it is well worth the 10 cents asked by the firm to cover mailing expense.

The Folmer & Schwing Manufacturing Company, 407 Broome street, New York, has just issued a new catalogue and price-list containing full particulars of all the apparatus and specialties made by them. The more recent instruments were described very fully in these pages at the end of last year, but it is well to have every detail about them, and so we would advise that a postal card be dropped to them for a copy of the catalogue. Some of the novelties listed are quite out of the usual run.

From Burke & James, 118 West Jackson boulevard, Chicago, we have received a copy of catalogue No. 8, which is quite timely, as it is devoted to stereopticons, magic lanterns, lantern slides, enlarging lanterns and accessories. One very interesting feature renders this catalogue of special value. We refer to the valuable information given in the first half dozen pages, in which is described the essential parts of a lantern, how to adjust and use it with any kind of illuminant. Copy of the catalogue will be sent free to any one interested.

THE PHOTO-BEACON.

AN ILLUSTRATED PHOTOGRAPHIC JOURNAL
Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

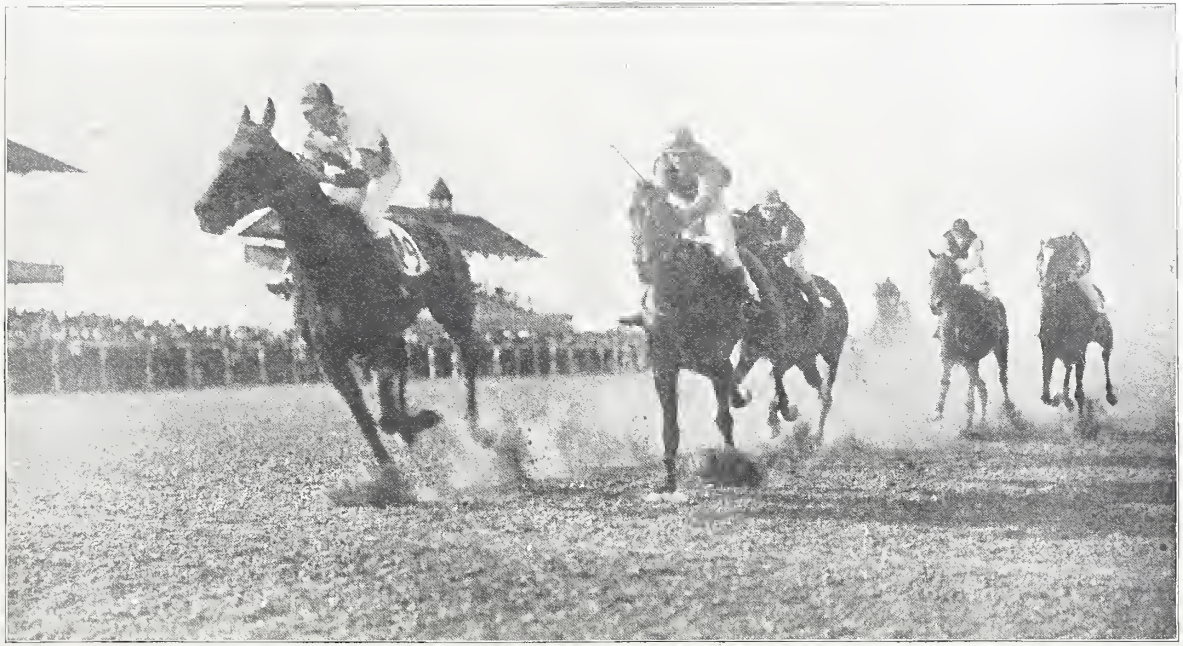
All remittances should be sent by postoffice money order, draft or registered letter to the order of The Photo-Beacon Company.

Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

All communications relating to The Photo-Beacon should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621 Broadway, New York.



Jno. M. Schreck, Buffalo, N. Y.

FIRST PRIZE.

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

Published by the Photo-Beacon Co., 908 Security Building, Chicago.
Eastern Office, 611-621 Broadway, New York.

Entered at the Postoffice, Chicago, as second-class mail matter.

VOL. XVI. DECEMBER, 1904. NO. 12.

DOLLARS AND CENTS IN PHOTOGRAPHY.

In last month's issue I referred incidentally to the fact that at conventions one rarely hears any public discussion on that most vital of all issues, to the professional photographer, the financial one, and how in the gatherings of nearly all other trades, occupations and professions little else is before the bodies. Of course it will be pointed out to me that in the professions proper money matters are practically ignored, and in reply I will retort that, while such may be the case now, it was not always so, and that the recognized "ethics" of the various professions when examined will be found to be firmly rooted in a dollar soil. For instance, it is contrary to the ethics of the medical profession to advertise, though a few medical "scabs" do parade their virtues through publicity, but they are exceptions to the rule and are not recognized by the various medical societies. The reason for this rule is that the old established practitioner has an understanding with the young aspirant that he will tell the latter everything he knows provided the novice will wait patiently for popular recognition and financial returns until the older man is removed from this world. Incidentally, it is pointed out to the young practitioner that he is indebted to those who have gone before for all that he has learned, also that if advertising were generally followed, the older men with the prestige acquired by years of faithful service would, as a rule, simply swamp the young man struggling for a footing, so that both would be wasting money in a strife where the newcomer would get the worst of it. With a code of ethics that takes care of all financial problems, it can readily be seen that it is unnecessary for the medical and similar professions to be continually discussing the business end of their calling.

But photographers have no ethical code. Dog eat dog is the recognized rule since bones are so few. The average man is ashamed to show his hand in public because his record is a picayunish one, being largely an alternation of divers "schemes"—free sittings, ticket-selling, coupons, free enlargements, baby days and such. The business ideas of photographers are all small. At every convention I am taken aside by men who wish to impress me with their importance, but who know that I am thoroughly familiar with their work, so must enlarge upon their business qualifications to impress me. They proceed to unfold to me the devious wiles they exercise to keep a steady stream of customers coming into their gallery — all at low prices — and how they display their business acumen by saving five per cent, or even one per cent, by buying a certain product in a particular way. I get very tired of the smallness of these schemes, because I realize that the stock used in photography amounts to but one-fourth, or at most one-third, of the total cost of the finished product.

Few men can think of more than one thing at a time, and so the individual whose whole thought is devoted to close buying is not mentally equipped for thinking about big prices in selling, and this is where the money lies in photography. I have men tell me that they were straining every nerve to get a steady run of twenty customers per day at $2 a head, and felt certain that if they could reach that standard they would make money. Now let us do a little figuring and see where we land. There are eighty millions of people in this country, of which thirteen thousand are photographers in business. That is one photographer for every six thousand individuals, so that for such a plan to work every man, woman and child would have to visit a photographer at least once a year, and some of them twice, because twenty sittings a day means seven thousand three hundred a year — photographers work Sundays. But there is a large class in the community who are never photographed excepting once in many long years, while in the Northern States the galleries are as thick as one to every two thousand inhabitants. One photographer who had figured out this theory was located in a northern manufacturing city of thirty-nine thousand people, where there were only seven photographers — an unusually low proportion — but he had to confess the best he could do was ten sittings a day for three months, and that he then found he had exhausted the possibilities. Then he wanted to sell out on the plea of bad health, probably in the region of his pocket.

Surely it is about time for photographers to endeavor to bring order out of this chaos, to instil some practical business sense into each other's heads, to impress on every one the importance of getting a fair price for his work, so that he can live comfortably, to gather statistics about different localities as to the possibilities of making a living there, and in a hundred and one ways help along each individual member without in any way infringing a single law, either governmental or moral.

An article is worth just what the seller can get for it, and the buyer naturally tries to get the best bargain he can, and not infrequently advances very ingenious arguments to show the absurdity of the price demanded. Then again he frequently does not hesitate to lie, asserting that he can buy much cheaper from the opposition man across the way, or to insist that he considers an indifferent photographer's work just as good, in fact almost prefers them at the lower price. These are every-day problems, and yet I find the majority of photographers do not know how to meet them. Common sense says that such perennial topics should be thrashed out at every convention, so as to sustain the weaker members.

At a recent state convention there was in attendance a country photographer whom I knew to be a money-maker, and at my suggestion he took the floor for a few minutes, giving a rapid outline of his method of doing business that was simply a revelation to the gathering. One of his phrases impressed me so strongly that I noted it down at the time, for future use. Here it is: "Babies, lovers and old age are as staple as sugar, and out of them we make our living, out of the rest we make our profit." The rest, who are they? This was the point I fastened my mind on, suspecting that it practically consisted of the men folks, because they are the hard ones to get in front of the lens. One great problem for every photographer, then, is to capture the sterner sex, and so I attacked for information one photographer in the West who is remarkably successful in that line and one who is famous for the bigness of his prices. Everybody knows he is no talker, in fact my description of him is summed up in three words — big but inarticulate — but somehow I have the knack of putting him on his mettle and getting out of him a phrase that means much. So, recently, I assailed him on his business methods and, after a rather lively time, I got out of him this pronouncement: "Give every man an *excuse* for being photographed, then soak him hard in the pocket, but, when you deliver the goods, make good." This is not couched in the most elegant English in the world, but were I to refine it I would simply take every bit of vim right out, so I set it down just as uttered.

It tells much. Men pretend they hate to be photographed, but in reality they are very willing, if a satisfactory excuse to them can be found. My friend admits that two-thirds of his business depends upon finding such excuses every working day in the year. So far, he is little different from other photographers, all of whom at some time or another have worked fraternal bodies and such to the uttermost limit. But watch the neat phrase, "Soak him hard in the pocket." No special cut rates for this occasion, it will be observed, as is the general policy of photographers, but the highest possible. From the days when my friend ran a tin-type gallery to the present moment, his one thought has been how to double his prices. He never gives a moment's thought to the cost of material, in fact a more wasteful establishment I never saw, but all the time he is planning for bigger returns, until now one day's receipts not infrequently exceed those for a whole year of the average man.

But if there must be an excuse to tempt men to be photographed, there must also be one for the big prices. So, "When you deliver the goods, make good." To see him in a general crowd, you would think he was the only well-known man around, for everybody hails him as he moves, yet, one and all, he has "soaked in the pocket," but the quality of his goods is such that all his customers feel they got the very best in this country, though the bill may have made them feel queer for a little.

I know other successful photographers who have tackled successfully this great problem of finding excuses for men having their photographs made, and each has his own method, so that it is impossible to give one that is applicable in all cases, and each of them is a financial success because he stands up for good prices. The one point I want, however, to emphasize is this, that from dawn to dark photographers should ponder how to get more for their work, and that when they get together in conventions there should be time given to the rehearsing of experiences, and these I will guarantee to be both amusing and valuable.

F. Dundas Todd.

Jas. R. Iglick, Rochester, N. Y.

SECOND PRIZE.

PICTORIAL COMPETITION No. 78.

Not so many years ago "snap-shot" usually meant a rather poor kind of a picture, for it was generally underexposed, with indifferent lighting and no composition to speak of; but nowadays we have skilled workers who tackle the most difficult problems, men who are excellent technicians and who at the same time have an eye to pictorial effect. It is therefore a pleasure to overhaul the photographs sent in for this competition, there being only one source of regret, and that is only three prizes are to be awarded.

The following are the awards:

First Prize.— Jno. M. Schreck, 169 Mariner street, Buffalo, New York.

Second Prize.— Joseph R. Iglick, 29 Asbury street, Rochester, New York.

Third Prize.— F. E. Bronson, 197 Main, Hornellsville, New York.

SPECIAL MENTION.

Louis Fleckenstein, E. F. Oyster, James Thomson, W. G. Corthell, M. Neumann, H. P. Dahlen, John W. Schuler.

Our prize-winners this month are very remiss in not giving particulars of their work, and I would ask that in future all competitors pay attention to this point.

CRITICISM OF THE WINNING PICTURES.

The first-prize winner sends in four prints, all excellent. Three are in black and white and therefore very good for reproduction purposes, but the prize-winner is a sepia, which will consequently make a poorer showing in half-tone. All are very difficult subjects, but of course the horse races are the most trying, both because of the high speed and the difficulty of getting sharpness in the horses' hoofs. However, in all the definition is perfect down to the minutest detail. I like the prize-winner because in it one sees all the terrible straining for the prize, yet at the same time the instant has been chosen where there was a fine grouping of the animals.

The second-prize winner is another of the same kind, though not so ambitious, but the maker of it worked for pictorial effect as well.

The third-prize picture is a simple subject, showing above all things a definite purpose in individuals where generally there is none, and this emphatically appeals to me. Here again pictorial effect has been duly considered.

FUTURE COMPETITIONS.

Competition No. 80 — Flower pictures, closes December 31.

Competition No. 81 — Sharp focus competition, either landscape or waterscape subjects. Closes December 31.

Competition No. 82 — Pictures of children under seven years of age, not necessarily portraits. Closes January 31.

Competition No. 83 — Lantern slides, any subject. Closes February 28.

Competition No. 84 — Snow pictures. Closes March 31.

Competition No. 85 — Waterscapes. Closes April 30.

Competition No. 86 — Branch of a tree without leaves, with special consideration of decorative effect. Closes May 31.

Competition No. 87 — Domestic animals. Closes June 30.

Competition No. 88 — Genre pictures, or pictures that tell a story. Closes July 31.

Competition No. 89 — Branch of a tree with leaves, with special consideration of decorative effect. Closes August 31.

Competition No. 90 — "At Home" portraiture, that is, portraits not made in a studio. Closes September 30.

Competition No. 91 — Snap-shot pictures. Closes October 31.

Competition No. 92.— Landscapes. Closes November 30.

Competition No. 93 — Flower pictures. Closes December 31.

RULES.

1. There is no restriction as to the number of pictures to be sent in. On the print there should be written the sender's name and address, *but nothing else.* The outside of the package in addition to our address, may bear that of sender. Accompanying a letter or postcard should be sent us, giving full particulars of date, light, plate, stop

and exposure given; also the printing process.

2. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.

3. Prints are not returnable.

PRIZES.

First — Books to the value of $5.
Second — Books to the value of $2.50.
Third — Books to the value of $1.

Any books, on any subject, or if preferred, any article we can buy in Chicago.

F. E. Bronson, Hornellsville, N. Y.

THIRD PRIZE.

PROFESSIONAL PORTRAIT COMPETITION No. 10.

The interesting feature of the competition this month is the decided increase in the number of new competitors, two of whom are lucky enough to carry off the first and second prizes.

Before settling down to the regular criticism, I want to say a few words about a letter I received a few days ago from one who takes part every month, so far without signal success. He writes as follows:

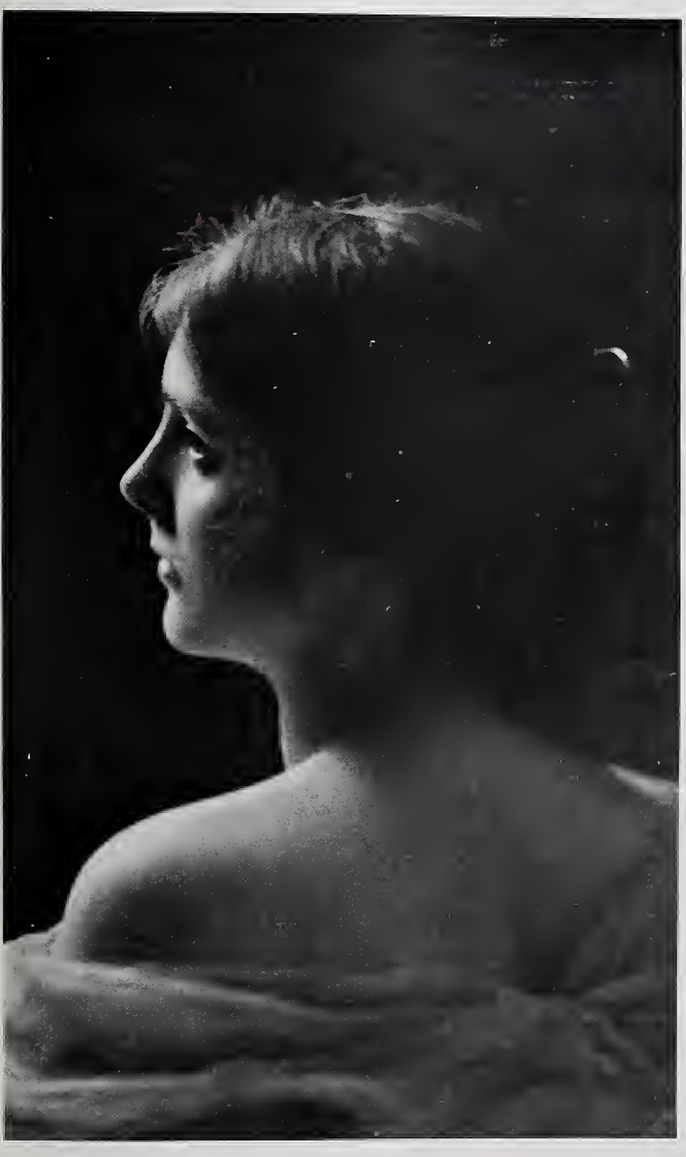
> Again I am sending you another of my miserable pictures. I have no hopes of winning at any time in the near future, if at all, but I like to hear what you have to say about my work, and I think I am profiting by your criticisms, only, don't knock me down quite so hard. I don't suppose I like black cards any better than other photographers, and was not aware that the mount counted in the size-up, as it is never shown in the cuts. You object to the "light spots" and also to the black ground, and yet the last issue of THE PHOTO-BEACON shows a child with the blacks far blacker than mine, and some of your prize pictures are made on plain black grounds.

Let me take his points in turn. I do not consider his work miserable at all, for I have regard and patience unlimited for the man who is trying to do something, no matter what, and it gives me great pleasure every month to see this particular photographer improving, and I know that some day soon he will surprise himself by taking a sudden jump forward. He makes two remarks which tell quite a story, those in which he refers to the character of the mounts, and the "light spots." Like hosts of other people in this world, he is looking for a rule, a plain, simple statement in words that will enable him to turn out harmonious pictures with little effort. But, unfortunately, no such rule exists. A black mount may be the very salvation of one print, a white spot that of another, yet both or either may ruin a very promising attempt the very next time they are used. What is wanted is a pleasing result, and it is the photographer's business to so draw with light that he gets it.

The mount has everything to do with the print. It is not merely a support, but its margin cuts off all the surroundings so that we can concentrate our thoughts upon the artistic effort before us. The frame is for an identical purpose, therefore it should be felt, but not observed; if seen, it conflicts with the picture and should be ignominiously rejected.

Therefore, in mounting a print, much experimenting may be necessary to get the most pleasing effect. But as a guide these points may be considered: First, there is used a certain scale of tones which may range from pure white to deepest dark, though he is wise who limits himself to only a portion of this scale. If the print be harmonious in itself, the best mount is one that partakes of the character of the middle tone of the scale used, but if the darks are too much in evidence they may be lightened by the use of a mount darker than the darkest, and similarly if too light they will be darkened by the use of a light mount. Our friend this month sends in the best print he has yet submitted, which is pitched in a key ranging from middle tone to black. So far so good, but his mounting is not at all satisfactory because he affects the double mounting fashion, using a narrow band of a very light tint on a very dark base, the result being rather harmful to the lighting on the face. My readers can thus see that it is utterly impossible to divorce the mount from the print and consider the latter alone.

The first-prize picture is a very ambitious effort in which there is much success and also a few glaring defects. I like the general effect immensely; it is so full, round and agreeable, and at the same time a splendid portrait, such as could be sold anywhere. To me it has but three serious defects, the hairpin, right shoulder and the point where the neck and left shoulder meet. The bright spot of the hairpin conflicts with the lighting of the profile, and, while one is gazing at the latter, there is a continual tendency to wander to the pin, in fact I find it easier to concentrate my gaze on this than on the face. One's eye should never be allowed to get outside of the frame, but the strong light on the right shoulder makes the feat an easy one. A little toning down of these points would make a big improvement. The meeting of the neck and collar-bone is decidedly cutting and not in harmony with the fine, rounded effect that pervades the rest of the print.



FIRST PRIZE.

The second-prize picture is by a lady photographer who evidently possesses a fine feeling for tone values, as most of our lady friends do. She has selected a short scale from middle tone to dark, used a background that just harmonizes, and I admire the clever way she has used the cloudy effect to tie the figure to the right margin of the print. My readers will please note that, notwithstanding the apparent simplicity of the pose, how cleverly certain ideas have been worked for. First, vivacity has been secured by the correct relationship of body, head and eyes. We can suppose the subject to be looking in front of her, to the right; she is spoken to and at once turns her eyes to the speaker, the result being that the body turns just a little, the head about half way, and the eyes all the way. The natural result is an alert expression, and I know of no other way by which it can be secured. Blended with this intelligent effect is just sufficient trace of dignity to make the subject more fascinating, and this is secured by the lens being considerably lower than the sitter's face. Altogether, I am well pleased with this print.

The third-prize picture is an excellent bit of tone rendering, but to my mind it fails as a portrait in this, that the profile has been turned just a little too far away. All in all, it is a pretty good rule when taking a profile to take care that the eyelashes of the faraway eye are just visible past the bridge of the nose.

BRIEF MENTION OF A FEW.

H. O. M.— A lot of fine points, but right cheek too flat and patchy.

Berlin.— Technically very fine; you have tried to cover too much — from white to black is a mighty long way.

J. B.— Eyes looking too high; read again description of second-prize picture.

Two Rogues.— Fine work, but you have four big white spots in a straight line.

Barwise.— The large white space in front ruins everything.

Elite.— Good, solid photography.

H. G. P.— Too many perpendicular lines.

F. Dundas Todd.

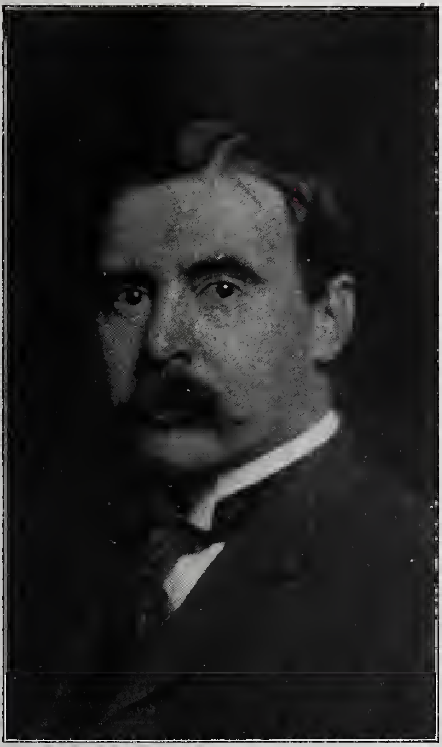
RULES.

1. Only one print to be submitted in any one month, and this must be from a negative made in the ordinary course of business within sixty days of the date it was mailed.
2. The pictures will be judged on the first day of each month, and all prints received prior to that date will be included.
3. Requests for private criticism, accompanied by fee of $1, may be sent along with the print and will be answered after the judging is over.
4. Mark outside of package with the words "Portrait Competition."
5. Prints are not returnable.

MORE RAYS.

It might be thought that discovery in the direction of obscure rays would be resting awhile; but still another set of rays is claimed to have been discovered by M. di Brazza, a student of Liège. Their results have been rendered visible to the outsider by the employment of orthochromatic plates. Professor Charpentier, of Nancy, had surmised that the brain is the seat of the emission of the N-rays, and M. di Brazza thinks he has proved it and that his rays, called I-rays, differ from N-rays by being able to pass through moist substances. When an experimenter concentrates his will, the I-rays from his brain cause changes of luminosity in a phosphorescent tablet. When his attention is not concentrated, the light does not flicker. The rays are not emitted equally from every part of the head. They are nil at the forehead and upper part of Brocas center, increase at the temples and eyes, and reach the maximum behind the ears. A question of profound importance is hereby raised. If it be possible to produce a visible physical effect on objects external to an experimenter or operator, what ground is left to stand on by those who object to the idea that one person's mind is capable of influencing that of another without the ordinary senses of touch, hearing, seeing, etc., being brought into play? If M. di Brazza can bring his orthochromatic plate results into the court of science, and win a verdict in favor of I-rays, a most momentous epoch will have been initiated.

The jury of the First American Salon has decided that sharp-focus photographs may be pictorial, but, notwithstanding, our sharp-focus competition will take place.



CURTIS BELL.

President American Federation of Photographic Societies.

Negative by F. Dundas Todd, taken with the Cooper-Hewitt light.

The Metropolitan Camera Club of New York is the proud possessor of a four-tube installation of the Cooper-Hewitt light, which, it need scarcely be said, is in very constant use. On the occasion of my first visit to the rooms, a few of the members put me right up against it and demanded that I show them what I could do. Now, I had not made a portrait negative in three years, had never made a single exposure under this light, and therefore anticipated some little trouble, more especially in seeing the fine half-tones of the face which are so essential to successful portraiture.

My conception of Mr. Bell is that he is of aggressive temperament, and the pose I selected was intended to carry out that idea. The scheme of lighting is the one made so familiar to us all by my old friend, Mr. Inglis.

The print is on velox and is made without faking on an unretouched negative, so that my readers can see just what I have been able to do with novel conditions. F. D. T.

FIRST AMERICAN SALON.

By the time this issue goes into the hands of its readers there will be on exhibition in New York city one of the most interesting and important displays of pictorial photography that has ever been placed before the photographic public. Only one year ago was the idea first hinted by myself that it would be possible to organize the leading photographic clubs of this country into a workable federation, but in January of this year the suggestion fell into the hands of Mr. Curtis Bell, a man of great organizing ability and untiring energy. The result of his efforts will be shown during the next few months in nine of the principal cities of this country, including New York, Boston, Baltimore, Washington, Toronto, Chicago, San Francisco, Portland, Oregon, and Portland, Maine.

Notwithstanding the pooh-poohing that has been liberally poured upon the proposition by individuals on both sides of the Atlantic, the photographic world has practically received it with open arms, and pictures by the thousand have been pouring into New York during the month of November. At the date of writing I am unable to give the exact figures, but a rough estimate is to the effect that about seventy-five hundred frames were contributed from America and about sixteen hundred were received from abroad. To handle such an enormous collection was in itself no mean task, and on a recent visit to the rooms of the Metropolitan Camera Club I found over one dozen members as busy as bees, trying to reduce order out of chaos.

Even more remarkable than the numbers submitted is the status of the jury of selection, which consists of the most eminent artists this country has ever seen. On the first day of selection no less than eleven of them appeared and on the second day an even dozen, comprising such men of fame as John La Farge, Childe Hassan, Edwin H. Blashfield and Kenyon Cox, being a jury the like of which never was brought together in the history of photography, and one whose opinion must unquestionably be final in photographic art matters, because whoever cavils at the decision of such a jury can appeal to no higher court.

I happened to be in New York city on the first day of the judging, and on the day following, along with a number of brother editors, I was permitted to look through such pictures as had been selected in order that I might make a choice of a few pictures for reproduction in this month's issue, so that the readers might have an opportunity of forming a broad estimate of the character of the selection made by the jury. The impression that I received was rather startling, because, much to my surprise, I found that this jury of artists had — to use a slang expression — practically upset the photographic apple cart, for they had, in a large number of instances, overthrown the strange gods the photographic world had in former years bowed down to and worshiped. Some of the first pictures to catch my eye were models of perfect definition and pure photography, in fact, would gladly be selected by lens, plate and paper manufacturers as first-class mediums for advertising the quality of their goods; such pictures as we have never seen in salons for many years. On the other hand, one could find many specimens of the mud-flat school and my offhand opinion was that the most striking feature of the display to the average man will be its broad catholicity, for here he will find everything to his taste and much that will not please him. On the walls will be pictures that are fuzzy, some that are sharp, many that are murky and others that are as clear as fine definition can make them. In subjects there will be as much variety. A casual glance shows snow scenes, waterscapes, landscapes, portraits, genré subjects, and, in fact, everything that one expects to be rendered as pictorial photography.

I did not have an opportunity of looking over the rejected mass of pictures, but I was informed that many that had figured in past salons had been unfortunate in this, while many that had been rejected formerly were now to hang on the walls — the labels on the back of the pictures being accepted as a proof of this. One feature pleased me much, and that was to find quite a number of pictures that had figured as prize-winners in Photo-Beacon contests. In fact, quite a number are included within this collection that have received only honorable mention.

The foreign pictures submitted had not found their way out of the customhouse when I was in New York city, but a recent letter from Mr. Bell informs me that both England and many other European countries are splendidly represented, notwithstanding the incessant efforts to belittle the salon. In this country George H. Seeley, Stockbridge, Massachusetts, will easily jump into the first rank, probably not be equaled by any other living individual in the field of pictorial photography, more particularly for this: that, as I understand it, he is able to secure almost any kind of an effect from fuzzy photography to ultra definition without faking of any kind. Rumor says that one Italian exhibitor will also be welcomed into the pictorial field. Of all these I will be able to say more after I have had an opportunity of carefully considering their work.

The most important conclusion that came to my mind from the brief overhauling of such pictures as had been selected on the first day is this: That the jury of the highest ability in the artistic world has proclaimed to every one that it is possible to produce pictorial photographs by straight photographic methods, and it seems to me that the world-wide proclamation of this fact will give incentive to those who at present have really no sympathy with the faking methods so much in vogue.

F. Dundas Todd.

OIL PRINTING — A PROCESS NEW TO PICTORIAL PHOTOGRAPHERS.

Notwithstanding the great elasticity of gum-bichromate as compared with other printing processes, pictorial photography is not likely to suffer by the removal of such limitations as still exist. It is, therefore, unnecessary to offer an apology in suggesting the adoption of a process which, in my hands, has not only proved itself free from some of the difficulties of the older methods, but has, at the same time, greatly extended the possibilities of control over results. This process, which, for want of a better term, may be called "oil-printing," bears somewhat the same relation to "gum" that oil-painting bears to water-colors; and let it be here noted that the technic of the two processes is equally different and distinct — a point which it is important to recognize. The claim is, I am aware, a very wide one; but, if substantiated, it ought to prove of considerable importance to those who desire that something of their own personality should find expression in their work. I shall, therefore, endeavor to demonstrate its validity by a description of the process.

Geo. H. Seeley, Stockbridge, Mass.

FIRST AMERICAN SALON.

Since working out the present method I have found a reference to a suggestion of a similar nature by Poitevin in 1855,* but, after that time, the process, so far as direct prints are concerned, has evidently sunk into oblivion, for it does not appear to have been noticed elsewhere in photographic literature of any description. Therefore I do not hesitate to describe what promises to place in the hands of pictorialists as great an increase in the powers of control as that provided by gum-bichromate when compared with carbon, bromid and the rest.

---

* Poitevin's English patent, No. 2,815, of 1855, gives somewhat vague directions for the production of a greasy image on chromated gelatin, and suggests that it might be allowed to "remain on the original support;" although the objective was actually a transfer for photo-lithography.

The principles on which the process is based are similar to those underlying many of the photo-mechanical reproduction methods, of which collotype may be taken as an example; but in these processes the objective is a block, or surface, from which numerous mechanical impressions in printers' ink may be taken; whereas, in oil-printing, light action is essential to the production of each individual print.

To make clear what follows I will here briefly outline the process, leaving the working details for future consideration. A surface of gelatin sensitized with bichromate of potash, and exposed under a negative, is soaked in water. If, now, a roller, charged with ordinary oil-paint (or printers' ink) be passed over it, those parts (for example, the shadows) where the light has acted, having absorbed little or no water, will allow some of the paint to adhere, while the protected parts (for example, the high lights), being more or less saturated with water, repel the greasy substance with which the roller is coated. In this way an image is formed consisting of any desired pigment, held in position by gummy oils or any suitable medium, and exhibiting the same gradation as the original negative.

Several advantages of this process will at once present themselves. The image, as in carbon and gum, may be built up of pigments whose permanence is beyond suspicion; but, unlike those processes, their application is the last, instead of the first, step taken. The action of the light is, therefore, plainly visible and under complete control, as is the case in ozotype. Likewise the pigmenting may take place any convenient length of time after printing; but, in rolling up an oil-print, there is tremendous latitude in various ways. Thus the picture may be brought out, say, in black, and, this color proving too heavy for the subject in hand, it may be *entirely removed* and another color substituted. This may be repeated I know not how often.

The characteristic, however, which to the artist in photography possesses the greatest value is the facility — I had almost said fatal facility! — with which any portion of the image may be caused to take up either more or less, as desired, of the pigment. It may be piled on here, or reduced to any extent there; a shadow enriched even to deepest blackness, or a high light picked out in the whitest white. True, this can, to some extent, be done by the expert in gum, but he can never undo his work, for the image-bearing medium is itself removed in washing the pigment from a gum print, and can not by any means (other than resort to handwork) be replaced: but in the oil-print the image-bearing film remains intact throughout, and thus, although the pigment adheres to and is regulated in density by it, unlimited alterations may be made in the layer of pigment without any interference whatever with the lower strata of gelatin.

And not only is it possible to *increase* the contrasts as indicated above. The whole scale of tones may be altered in either direction uniformly. Thus, on the one hand we may, from an average negative, make a print having almost the violent contrasts of a silhouette, or, on the other hand, the contrasts may be all but submerged in a homogeneous tone of any desired intensity. Of course, these are the extremes which it is possible to reach — indeed, in the latter case it is likely that even an effect of reversal could be obtained — nevertheless I mention them to show the powers in our hands.

It must, moreover, be borne in mind that in every case of control having been thus exercised, we can go back to the starting point and bring up a practically normal print upon which we may set to work again to further modify it.

There is a code of ethics applying to photographic processes which should be as clearly recognized by pictorial workers as painters recognize those which appertain to the various mediums with which they work; but while there are rights and wrongs connected with the application and usage of the various water-color processes of the photographer (and under this term I include all the purely chemical methods, as well as carbon and gum-bichromate), the line of demarkation between one and another has not hitherto been very clearly defined.

The technic of oil-printing, however, is distinct from that of the other processes, and may be likened to oil-painting, gum-bichromate representing water-color. Thus, in oil-painting, the surface of the pigment, rather than that of the substance upon which it is laid, is the important consideration, whereas in both water-color and gum-bichromate

Louis Fleckenstein, Faribault, Minn.

FIRST AMERICAN SALON.

the washes of paint are so influenced by the supporting paper that its surface plays a not inconsiderable part in their esthetic value. Likewise, in oil-printing, the pigment has an appreciable thickness, and consequently we get the counterpart of the painter's brushwork, so that the support in this process is also of less account than the "handling" of the pigment itself.

Of course, various substances may be employed as supports for the picture in oil-printing; but in this, as in the rest of the directions about to be given, I will confine myself to a single, simple course of procedure, leaving the introduction of variations to the experimentalists. For the sake of brevity, it will also be taken for granted that the preparation and manipulation of carbon tissue are understood, and, therefore, merely a general reference to the preparation of the paper, or *basis,* will be necessary.

I have found the most convenient support to be a stout, hard, smooth-surfaced cartridge paper, which will withstand considerable wetting without becoming tender. This is coated with a fairly thick layer of medium gelatin, which it is convenient to render insoluble with formalin or chrome alum. The sensitizing bath is a 2½ per cent solution of potassium dichromate, in which the gelatin basis is immersed, or it may be floated.

When dry, the basis is ready to be printed in the usual way under a negative, which for a first trial should be a good, plucky one, having strong contrasts. The image is easily visible — light brown on the yellow ground — and printing is complete when the faintest details in the high lights can scarcely be distinguished. Except for the absence of pigment, and the consequent visibility of the printed image, it will be observed, the procedure is so far practically identical with that of the carbon process. The difference begins at the next step, which consists in washing the printed basis in warm water (seventy degrees to ninety degrees F.), which should be changed occasionally to get rid of the bichromate. Three changes in half an hour will do. The duration of this soaking will vary according to circumstances, but should continue until the image shows distinctly in relief, upon inclining it toward the light after wiping off the surface water. This soaking must be ample, and can not easily be overdone. The appearance of the image, apart from the relief, may be entirely disregarded; indeed, with a prolonged soaking, it may become practically invisible without affecting the finished print. Once the bichromate is thoroughly removed, however, the print may be dried and pigmented at any future time, or, if preferred, this may be proceeded with at once.

Whether or not the print has been dried, however, pigmenting is performed in the same manner, only in the former case it must first receive another soaking. (If it is intended to postpone the pigmenting, the first washing may be merely sufficient to remove the bichromate.)

The next step requires a few materials which are not usually found in a photographic outfit, and they will therefore be more particularly described than were the other parts of the process.

First, then, a slab of plate glass at least a quarter of an inch in thickness, and somewhat larger than the largest size of prints to be made, will be found most useful in many ways. For applying the pigment, a roller of some sort is almost a necessity, and nothing could be better than a "composition inking roller," such as wood engravers use for "proving" their blocks.

Two or three "stenciling brushes" will be required, and may be obtained at most oil and color men's, but are not usually stocked by the artists' material dealers. They should vary from about a quarter of an inch to one inch or more in diameter, and those having the finest bristles should be selected.

The pigments, as before stated, are of the kind used by artists, but the ordinary oil paints, as sold in the collapsible tubes, are not stiff enough for this process; and although this may easily be remedied, the new patent "Raffaelli's solid oil colors" are just right in this respect.

Of these a few will suffice to begin with; they are only distinguished by arbitrary numbers, the names of the constituent colors, unfortunately, are not stated. No. 191 is a serviceable black; No. 183 is a cool sepia, and No. 28 a warm, brownish red. They may be used alone or mixed, the last named being particularly useful for warming up and tempering the others. Of course, any number of other colors in various forms may be used, but it is unnecessary to go further at present. A few ounces of the *best* refined turpentine, a bit of soft sponge, some linen rags and a palette knife complete the necessary equipment.

To prepare for work, take, with the palette knife, small quantities of paint of the required colors, after having removed the outer skin, as directed on each stick. (Only the most trifling amount is required for each print.) Place it on a piece of glass (such as an old half-plate negative) by way of a palette, adding a few drops of turpentine, and rub them together until perfectly smooth and of the consistency of thick cream, free from all lumps and bits. Spread it roughly all over the palette, then take the roller and roll it in the paint, covering it and the palette evenly and thoroughly. Continue rolling thus for a few minutes, when the turpentine will have evaporated almost entirely.

Henry Hall, Vineland, N. J.

FIRST AMERICAN SALON.

Now lift the printed basis from the water in which it has been soaking, and lay it face up on the slab of plate glass. Allow the superfluous water to drain away for a minute, and then, with a clean, fluffless cloth, dab and wipe the surface until it looks dry. Take a small sponge or rag and daub a little of the mixed paint on to it, and, having placed a few drops of turpentine on the center of the print, rub it all over the surface until it is more or less evenly smeared with a thin layer of paint. Smudges and markings are of no account — it is only necessary to go over every part. When the turpentine has mostly evaporated, and the sponge begins to " drag," take the roller and, having freshly passed it over the palette a few times, commence to roll the print from the bottom to the top. (Prints should always be made on basis about an inch longer than the picture, so as to leave a margin at the bottom which can be held down during rolling.) After a few strokes, the picture will begin to show, faintly at first, but with continued rolling it will be gradually built up until it has reached its full natural strength, the pigment adhering, as previously explained, in proportion to the light action.

Such a print forms a foundation on which we can work to an almost unlimited extent, dependent largely upon the condition of the paint, with regard to its stiffness, at the moment of application.

Thus, in order to produce an increase in contrast, the paint must be as stiff as possible, whereas if a flat result is desired it may be much more nearly liquid. This variation I find it most convenient to produce by the use of the stiffest possible paint to start with, and thinning it down with turpentine, which may then be allowed to evaporate until the required consistency is reached.

But whatever the consistency of the paint, it may be applied only with the roller. Perhaps the most potent possibilities of control lie in the stenciling brushes, for by their aid the paint may be applied wth the greatest variety of effect, and not only generally but locally. The use of these brushes, however, requires practice, since there is a certain knack involved in getting the desired result, and, although this is not easy to describe, it is, perhaps, possible to give a slight idea of the manner of using them, so that a few trials will probably result in some measure of success. The brush must be perpendicular with the print. It is held *very lightly* between the thumb, first and second fingers, the last named touching it at the side of the handle nearest to the body and low down, close to the bristles. Supporting it in this way, about an inch above the print, it is dropped, following it downward with the hand, and instantly, on touching the print, it is again lightly grasped and lifted to its former position, and the action repeated as rapidly as possible. In this way the print is tapped, or dabbed, wherever required. If the action is light, the paint will be spread more evenly, with a tendency to flatness, while a sharp, half-drop, half-throw action picks the paint off, with an increase of contrasts. But whichever effect is produced, the *drawing is in no way affected,* unless this is desired and aimed for, in which case the paint can be entirely or partly removed with a rag or pointed sticks or brushes.

Or if it should be unsatisfactory in any way, the whole of the pigment may be easily taken off by means of the sponge and a few drops of turpentine, and the rolling-up repeated.

It is perhaps hardly necessary to enlarge further upon the possibilities of modification and control, since the elasticity of the process will be self-evident from the foregoing account, but it may be useful to point out that, especially in the case of small prints, it is possible to work entirely with the brushes, dispensing with the roller altogether.

In advocating oil-printing as an exceptionally responsive medium for the photographic interpretation of the artist's ideas, it may be that I have fallen into the errors of the special pleader; but the experience gained in working out the process from the chaotic smudges which did duty as my encouragement in the early stages, has given so tempting a vision of its probable future that my enthusiasm in its cause may have led to the appearance of exaggeration. I believe, however, that if my readers will make a few prints for themselves they will realize that this is not the case, and that, on the contrary, I have left its limits still undefined. — *The Amateur Photographer.* G. E. H. Rawlins.

[See page 382 for additional notes on this interesting process.]

DEVELOPMENT, SCIENTIFIC AND PRACTICAL.

CHAPTER IV.

Our practical experiments have shown us that in the particular plate we have been considering there is a great latitude in the time of exposure, but I can assure my readers that more or less latitude is characteristic of all plates. I deliberately chose a very fast plate because there is a popular opinion held that there is less latitude with a rapid plate than with a slow one, but my tests with all American plate shows a remarkable uniformity as regards this particular quality. In fact, I find only one plate of decidedly less range, and this is intentional on the part of the manufacturer, as it is designed for portrait work, for which it is eminently suitable, as will be seen by reasons to be shortly set forth.

Here is the explanation of the latitude of a plate: Exact scientific test shows that the average dry plate will record distinct intensities of light from one to five hundred, or more. This is easily proved by exposing a plate behind a rotating disk in which are cut a series of apertures, each of which is double in width of the one preceding, so that a series of ten would give the following range: 1, 2, 4, 8, 16, 32, 64, 128, 256, 512. On developing and fixing the plate each exposure will be distinct, proving the capacity of the emulsion to record this range. But in nature we do not find anything like such a long range, in fact Hurter and Driffield prove that, with an ordinary landscape running from clear sky to black velvet in the foreground, being the two extremes possible if the sun be left out of consideration, the scale is from one to about thirty. It, therefore, follows that the average dry plate can record the tones

John R. Smith, FIRST AMERICAN SALON. Provincetown, Mass.

of nature as found in a landscape no less than seventeen times, and here is the reason for the latitude of exposure. When we make what is generally called the correct exposure, that is, the minimum to get a satisfactory result, we use only a small part at the lower end of the scale, but if we give sixteen times this exposure, then we use the upper end, while with exposures longer than the minimum and shorter than the maximum we are working with a part of the scale somewhere in the middle.

The scale of tones in an ordinary interior is considerably shorter than is found in a landscape subject, while it is even less in a portrait, the ratios being: landscape 30, interior 24, portrait 18; consequently one can give with the same brand of plate many times more overexposure with these two kinds of subjects.

So much for the question of latitude; now arises the problem of development. The formula I used in all my experiments, it will be noticed, is a very strong one, as it contains about double the quantity of pyro usually recommended by the various platemakers. I did not use it because I considered it the best formula, but for another reason. It takes so much pyro to deposit so much silver, no matter how the developer is applied, so that if a weak solution is used, as in tank development, it means that the first soaking in of the fluid into the film does not carry with it enough of the agent — in this case pyro — to do the work. Therefore, what happens is this: The pyro first soaked in acts on a certain amount of the silver, then it gradually is displaced by fresh developer, which does a little more of the work, but in turn is displaced by other fresh solution, and so on until the desired deposit is secured. Chemical analysis has shown that with a pyro bath of five grains to the ounce enough of the agent is absorbed at the start by the film to do all the reduction, and it therefore follows that one is more likely to get uniform results with such a developer than from one that is weaker.

Much has been said and written about the power of control one possesses in the use of solutions of different strength, but scientific tests show that all such notions are not based on fact. It has been conclusively proved that exposure determines how much silver may be deposited, the duration of development determines how much actually is; a weak solution, therefore, merely prolongs the time, a strong solution hastens it. This last statement is scarcely correct, because my friend, R. James Wallace, F.R.A.S., has demonstrated by a series of very careful experiments that if an unexposed plate be placed in a developing bath, the microscope will reveal that silver has been deposited in so short a period as forty-five seconds; at the end of ten minutes the effect is very marked, while in twenty minutes one will get from such an unexposed plate a deposit that will equal normal exposure and ordinary development. There is a moral here that deserves more than a passing notice, namely, that nothing is gained but fog by allowing an underexposed plate to remain longer than ten minutes in a normal developer, or, in plain English, forcing a plate merely adds more fog to it.

From these experiments we have learned:

1. That there is a minimum exposure essential to getting a good, developable image on the plate.
2. That very considerable overexposure can be given without affecting the final result as shown in the finished print, the principal drawback being that a much overexposed and fully developed negative may take an inconvenient time to print.
3. That there is very little difference of time between the time of appearance of a correctly exposed and an overexposed plate.
4. That with ordinary exposures, that is, those ranging from correct to say four times over, one may as well develop them all in the same bath for the same length of time.
5. That a landscape subject requires longer time in the developing bath than an interior, and the latter longer than

a portrait, the ratios being 1, 4-5, 3-5. Thus, if with the developer in use a landscape negative requires five minutes, then an interior should get four and a portrait three minutes.

6. That for the most certain results one should always use the developing solution of a uniform strength and at the same temperature. The latter is most readily secured by using a water bath, allowing the tray to rest on the surface of the water. The developing solutions should be brought to the same temperature by being set in another bath of the desired temperature or by the addition of hot or cold water as is necessary. A satisfactory temperature is sixty-five degrees, though anything up to seventy degrees will do, but once a certain temperature is decided on it should always be adhered to. A little experiment will soon give the proper time with any developer.

It is a great matter to be able to eliminate probable cause of trouble. Given a poor negative, why is it so? Was the exposure incorrect, lighting too contrasty or too flat, or was the development badly managed — was too much or too little pyro, too much or too little alkali used. These are the kind of questions that I meet with almost daily, and sometimes I have amused myself by putting them to professional photographers who, as practical men, are supposed to know all about this kind of a thing, but I never yet got satisfactory answers. Now, from this very necessary and practical discussion, we can at once eliminate one of the factors, because we have seen that development is a very mechanical process which anybody can learn in a few trials. We have also seen that there is little difficulty with overexposure, because any one of even a little experience will rarely give more than sixteen times too much. So that the great problem is narrowing itself down to the problems of underexposure and incorrect lighting, the last consisting of two divisions — contrasty and flat. Many a case of so-called over-exposure is really nothing more nor less than flat lighting, because as we

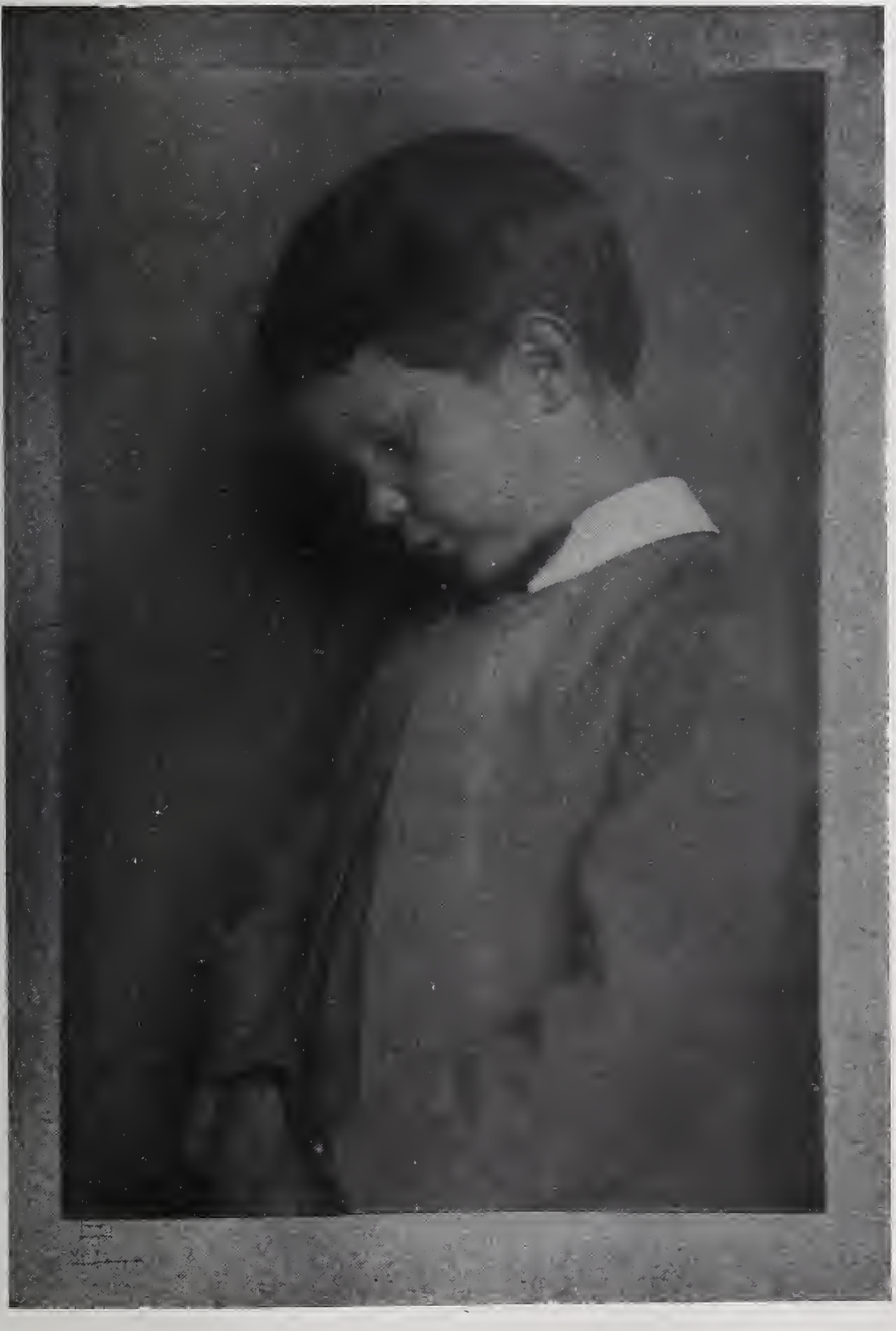
W. H. Zerbee, Richmond, L. I.

FIRST AMERICAN SALON.

have seen that with even sixteen times overexposure of a very contrasty subject every gradation from white to black is to be found in the finished print. This kind of error in lighting is to be found in many landscape subjects and portraits out of doors.

W. G. Macnaughton, Brooklyn, N. Y.
FIRST AMERICAN SALON.

The last problems to be solved are underexposure and too contrasty lighting. A correctly exposed negative will show detail in the shadows; no part excepting that protected by the rabbet edge must show clear glass, so one can see that contrasty lighting and underexposure are very closely allied, in fact it is very difficult to differentiate between them. In an ordinary subject such as a landscape without deep shadows, the problem is fairly easy, for one can argue from the nature of the subject,



Anne Pilsbury, Washington, D. C.

FIRST AMERICAN SALON.

besides in such a case underexposure will render it difficult to get sufficient density in the high lights as well. When, however, a part of the landscape is in very deep shadow, it is not unusual for this portion to be almost clear glass, while the balance is all that could be desired. The fault is too contrasty lighting, which, of course, can not possibly be avoided, but can be neutralized by very long exposure. In the case of a portrait, contrasty lighting is, I find, very common, because many of the prints I receive are weak in just a little band of shadow, while underexposure proper would show weakness generally.

F. DUNDAS TODD.

A GELATIN DAGUERREOTYPE PROCESS.

The production of photographs upon a highly polished silver surface, by the process originated by Daguerre, is difficult to obtain unless an apartment is specially fitted to carry out the various operations successfully. An excellent imitation of the Daguerreotype can be produced by the transfer of a gelatin film after it has been properly treated and its color changed so that it has the color which closely resembles the deposit upon a Daguerreotype plate. This can be accomplished in a manner that is practicable in the workrooms of the modern photographer, so that there is no necessity for special rooms to sensitize the silvered plate in, nor a special room for the development with mercurial vapor; all that is necessary is to prepare a special developer and a stripping solution, one that can be relied upon at all times for a sure removal of the film from the original glass plate.

The gelatin plates best suited for this class of work are those that work slowly, so as to give very clear and transparent shadows. The silvered plate can be procured in sizes required from a maker of reflector plate. This consists of a sheet of copper which has been coated with pure silver upon one side and polished, but the surface does not possess the requisite polish for the purpose required, so it will be necessary, after the plate has been cut to the various sizes, to have them planished, that is, to have them carefully flattened, and polished to a high degree at an electroplating establishment. They must then be carefully packed so that the surface will not become scratched, with a soft layer of wadding between each. The following solutions must be prepared and kept on hand ready for use:

DEVELOPER.

Distilled water (warm)	18 ounces
Metol	10 grains
Hydroquinone	30 grains
Sulphite of soda	220 grains
Carbonate of soda	160 grains
Potassium bromid	3 grains

Dissolve the chemicals in the order given. As soon as the liquid is cold it must be filtered through absorbent cotton into a clean bottle.

The fixing solution may be made up as follows:

Water	45 ounces
Hyposulphite of soda	1 pound
Sulphite of soda	1 ounce

Dissolve the above and add thereto the following solution:

Water	15 ounces
Chrome alum	1 ounce
Sulphuric acid	1 dram

The chrome alum should be powdered and dissolved in warm water. When the two solutions are mixed, they should be filtered and the fixing bath kept away from dust and dirt. A glass or porcelain dipping bath is best suited for holding the fixing solution. All the solutions must be kept very clean, otherwise all specks and marks will show up prominently when the image is transferred. The mercury solution is made up as follows:

Distilled water	15 ounces
Bichlorid of mercury	100 grains
Bromid of potassium	100 grains

The distilled water must be brought to boiling point in a glass flask, together with the above salts. When all is dissolved, add fifteen ounces more of cold, distilled water, then filter the solution. With these solutions ready, the exposure may be made upon a slow-working gelatin plate. The exposure must not be so long as for a full-bodied negative. As soon as it has been made, say upon a 4 by 5 plate, proceed to develop with the developer above given. It will be seen that the image comes up fairly well, but presents a weak appearance. This is just what is required. Do not attempt to force the development. If this is attempted the shadows will become degraded, instead of remaining clear. Development being complete, wash the plate well and fix in the solution described. Allow the plate to remain in the fixing solution for some time after fixation is complete; then take out the plate, wash well for at least half an hour in running water, then allow it to dry. As soon as the plate is thoroughly dry, place it in a clean tray and pour upon it enough of the mercury solution to cover it well. Rock the tray so as to expose the surface of the plate to fresh action of the solution. Whenever the film appears white, remove the plate and wash it well. Return the mercury solution to the bottle for future use, as this solution can be used over and over again. Place the plate once more aside to dry. When the plate has become thoroughly dry, the operation of removing the film and its transfer may be taken in hand.

F. V. H. Raymond, FIRST AMERICAN SALON. Cincinnati, Ohio.

Take one of the polished, silvered plates and clean it in the following manner: Prepare a solution of lye by dissolving four ounces of potash lye in twenty ounces of warm water (this solution must always be used in a warm condition); hold the plate to be cleaned at one corner with a pair of pliers, then dip it into the warm lye and wipe over its surface the solution with a piece of absorbent cotton pressed into a six-inch length of vulcanized rubber tube so as to form a miniature mop. These precautions are necessary to prevent the lye from coming into contact with the fingers, because it might injure them and cause soreness. As soon as the plate has been carefully mopped, it may be washed under the faucet. If the water runs over the plate so as to leave no greasy streaks, and remains upon the plate uniformly, the plate is then perfectly clean. It must now be coated with the following mixture:

Gelatin (hard)	20 grains
Distilled water	2 ounces
White sugar	10 grains

to which five drops of chrome alum solution have been added, compound of fifteen grains of chrome alum to one ounce of water. Filter this while still warm through two thicknesses of cheesecloth, and flow over the wetted surface of the silvered plate. Pour this gelatin mixture upon the plate two or three times, returning the superfluous solution to the glass tumbler from which it was poured, always allowing the corner of the plate to touch the side of the tumbler so as to prevent the formation of air bubbles. Set the plate to stand aside away from dust to dry. As soon as it is dry, it is ready for use. Now make up the following solutions for stripping the gelatin film from the plate. These solutions will keep in good working condition for several weeks if kept separately:

A.

Fluorid of sodium.......	60 grains
Water	5 ounces

B.

Citric acid	120 grains
Water	5 ounces

Place the gelatinized, silvered plate into a tray of clean water to soak for five or ten minutes, then place it into a small tray of distilled water and it is now ready to receive the gelatin film.

Take two ounces A and mix with two ounces of B; immerse the plate containing the image in this mixture, rocking the tray backward and forward and sideways. In the course of two or three minutes the film will be seen to wrinkle at the edges. As soon as this takes place the film may be easily lifted clear off the plate with the forefingers and thumbs of each hand. It must then be placed in a tray of clean water. This is to wash off the excess of stripping liquid. Lift the film from this tray and place it into the tray containing the silvered plate, then with the forefingers and thumbs of each hand raise the plate and the film together so that the water runs from between them. The plate must now be laid flat, say upon the top or bottom of a glass tumbler, and the film carefully adjusted by a soft camel's-hair brush. When in proper position it must be left in a horizontal position to dry.

It will be observed that the film has become enlarged somewhat by the operation, so that a 4 by 5 film will fit a 5 by 6 silvered plate. This slight enlarging of the film is in one way an advantage, because in stretching it makes the shadows thinner and more transparent so that the bright silver surface shows through it better. When the transferred film has become dry and the operation has been carried out with care and cleanliness, the plate will present an excellent imitation of the Daguerreotype, and, when mounted in a suitable frame and tinted with a few light touches of dry powder colors, the effect is that of a tinted Daguerreotype, and is scarcely distinguishable from one of these beautiful productions.

It will be found absolutely necessary to have all the solutions perfectly clean, and the last trays *must* be filled with distilled water, because ordinary water contains such impurities as lime and organic matter, which, in drying down upon a bright metal surface, will always show up in a very pronounced manner and thus spoil what would be in every other respect an excellent picture.

The gelatin solution used to form a substratum upon the silvered plate may be made in quantities of a pint or more, as it will keep for several weeks, especially if one ounce of alcohol is added to each pint of mixture, and well incorporated by stirring when the mixture is hot.

The fluorid of sodium and citric acid mixture must be discarded after it has been mixed for an hour; several films may be detached with the same solution during an hour, the stripping effect holding good for this time.

This stripping mixture is also very good and useful in stripping a film from a cracked negative, providing the gelatin film is not broken. It can then be transfered to a clean glass plate, which should be of larger dimensions than the negative, so as to give working space, the plate then being cut down to the original size. The developing solution given herewith can be used several times over, in fact after it has been used two or three times the pictures produced are of a good quality for the process described. In the process of development, do not try to force the image; let it come up weak and thin, because a picture that has been forced in any way will not give the desired result. It must be borne in mind that the shadows must be as transparent as possible, for only thus is the Daguerreotype effect secured. If the shadows should be at all muddy, the beautiful quality and effect so desirable in a picture of this kind are entirely lost. Plates of highly polished copper may be also used for transferring the image upon, and this gives an effect exactly like an electrotype made from a Daguerreotype, in which a bright copper surface replaces that of silver.

E. P. Swasey, M. D. New Britain, Conn.

FIRST AMERICAN SALON.

If dry powder colors are used for the tinting, any excess of color can be easily brushed off the surface with a clean, dry pencil or camel's-hair brush, and the colors fixed upon the plate in a very stable manner by simply breathing upon the surface of the picture after the colors have been applied, the moisture contained in the breath supplying all the damping effect that is needed to make the colors stick to the semihardened gelatin film.

The transfer of these films has not been satisfactory when attached to aluminum, as the polished surface of aluminum gives a white reflection, while that of silver is the reverse in effect. The clear parts of the image, such as the hair, a black coat and a velvet collar, are all represented as black when viewed at a suitable angle, as exemplified in the Daguerreotype. As to the varnishing of these pictures, that will prove to be a matter of taste. All ordinary varnishes do give a slight tinge of color to the film, and consequently are not to be recommended. There is a varnish that can be used, which is prepared by dissolving celluloid in amyl acetate, and usually sold under the various names of celluloid collodion, crystalline varnish and albaline, and a special liquid which is called "thinner," to thin down the thick, viscous collodion. Judging by the odor of this last liquid, it appears to be amylic alcohol. Albaline, when thinned down, forms an excellent varnish, perfectly transparent when dry, as well as protecting the film from the effects of moisture, alkalies or acids. It may be dried by heat or allowed to dry spontaneously; in either case the result is the same. The cost of the above varnishes is not at all high and they can be relied upon as a perfect protector of the film.

SECOND PRIZE.

A. J. Jarman.

HISTORICAL PICTURES COMPETITIONS.

In my back yard there stands a magnificent maple tree, one of the finest in our village, about which I am asked many questions, the result of its peculiar shape. It rises perpendicularly for about five feet, then it turns at right angles to the horizontal, following that direction for six feet, then just as sharply resumes an upward direction. It forms an ideal plaything for all the children in the street and many a ride to Banbury Cross is made on this natural cock horse. I was for long puzzled over this unique giant of the ancient forest, trying to account for its shape as the result of an accident, but by and by I discovered that there were several others similarly bent in my neighborhood, all of which had this peculiarity in common, that they all pointed in the same general direction. In a few the trunk was bent, but in most a large limb had been diverted from its natural growth until it took the shape of a large capital N. After considerable inquiry, I found that people of antiquarian mind had come to the conclusion that these bent trees marked an Indian trail of the olden time and that the paths indicated all centered upon a mound on the lake

THIRD PRIZE.

shore, about ten miles north from my home.

One of my friends has taken special interest in these trail trees and has photographed nearly all that he can find. In but a few years in the ordinary course of nature these objects will vanish from the scene, never again to be duplicated, as they mark one of the interests of a dying race, so that in putting them on record he is doing good work for succeeding generations, because the more we study the problems of present-day society, the more we find we must delve into the past to understand the laws that govern the evolution of the social organism. Such a simple thing as a bent tree could tell much to the man who could read.

Scattered through this immense country of ours are thousands of such relics of a past age, things trifling in themselves, but vastly important historically. Every day events are happening that once we get the proper perspective may prove to be turning points in the nation's career, and the interests of future generations demand that they be put on record.

To help along this good work I have decided to add to our competitions a historical section, at first holding the contests quarterly, but with this promise that if sufficient interest be shown I will gladly make them monthly. Our pictorial competitions were the first of the kind in this country, and now first prize is a great honor to be gained by those striving to enter the photographic art field. I think the first-class technical worker deserves a like opportunity, and for a long time I have pondered how to provide for him, and I think this solution is a very commendable one. The test here will be twofold; first, historical interest; second, technical skill. So I invite everybody to get out their cameras and put on record the most important historical object in their locality, make as perfect a negative and print as they know how and submit the result in the first historical pictures competition on March 31. A very short descriptive note should accompany each print, telling the most interesting points about the subject.

F. Dundas Todd.

NOTES ON OIL PRINTING.

The article on oil printing, reprinted on page 365, would appear to have created a vast amount of interest in Great Britain, and considerable reference is made to the process in the various magazines that have come to hand as this issue is going to press. In order that those who wish to try this process may have the very latest ideas about it, we have arranged to print these, even though the make-up of the magazine prevents the notes being placed alongside the original article. One writer, in referring to his experiments with the process, spoke of the fact that it was very irksome to coat paper with the gelatin solution, but at last he found that "single transfer" paper as used in the carbon process gave excellent results. This paper can be got in this country through any of the larger stock houses, and is carried in stock by G. Gennert, 24 East Thirteenth street, New York.

As regards the pigments to be used, while those recommended by the writer are good and convenient, yet some find that lithographic printing inks of good quality, thinned with turpentine, are far superior, while some others recommend printers' ink just as strongly. Again, instead of the roller recommended in the article, it has been found that the ordinary rubber squeegee was very much better.

We have no doubt that many of our readers will take up this process at once, and hope to hear from both those who have made a failure and those who have made a success of it. Should any one be too impatient to wait for the "single transfer" paper, they may make a beginning by taking a sheet of smooth bromid paper or one of the gaslight papers, remove the silver salts in the ordinary hypo bath and start, these papers being coated with gelatin. Of course, the hypo must be washed out in the ordinary way.

CRAMER EXHIBIT AT THE WORLD'S FAIR.

The only American plate factory represented at the fair was the G. Cramer Dry Plate Company, St. Louis, whose exhibit is shown in the illustration. The display consisted of a fine array of photographs and beautiful transparencies by leading photographers of this country, all of whom were proud to assist this famous firm in making a highly creditable exhibit in its home city. Its branches are located in New York, Chicago and San Francisco.

CRAMER EXHIBIT AT THE WORLD'S FAIR.

NOTICE.

The International Jury of the St. Louis World's Fair has awarded the grand prize to the exhibit of the C. P. Goerz Optical Works for their various photographic lenses.

The annual exhibition and competition of the Brooklyn Camera Club will take place February 16, 17 and 18, 1905. This will be an open competition and all photographers are invited to send some of their work. Entries must be in by February 4, 1905. Further information can be had by addressing Mr. C. M. Shipman, 776 Manhattan avenue, Brooklyn, New York.

We understand that the Kodak Press is about to issue a little volume entitled "Book of the £1,000 Kodak Exhibition," in which will be reproduced some sixty pictures from among the best shown at the recent Kodak exhibition in London. A copy may be had for 25 cents, either from the Eastman Kodak Company or from any dealer in kodaks and photographic supplies throughout the country.

THE QUARTER-CENTENNIAL CONVENTION OF THE P. A. OF A.

Boston has been chosen as the next meeting place of the Photographers' Association of America, and, as the association will be twenty-five years old at that time, the next convention will be known as the Quarter-centennial Convention of the Photographers' Association of America.

This will be the grandest and best convention ever held in the history of the association, so it is up to you to begin making your plans to be there.

The New England Association has decided to postpone its annual convention and use all of its efforts to make the Quarter-centennial Convention the grandest history has ever known.

The Executive Board of the Photographers' Association of America will endeavor to so arrange matters that every one making work that reaches a certain grade of excellence will receive a badge of excellence or some such recognition.

Begin now to arrange for your exhibit, as I want to see it the best in the history of our association.

Fraternally yours,
C. J. VAN DEVENTER.
DECATUR, Illinois.

DON'T.

Don't throw away a spoiled negative or print until you know what was wrong, what caused the mischief or mistake, and how to remedy and avoid it in future. Don't put down on the table or sink any cork or stopper from a bottle where it will gather up dirt and contaminate the contents of the bottle. Don't make up a formula until you have first written out a label and stuck it on the bottle. It is so easy to say, "I will label it to-morrow," "I shall easily remember the proportions," "I shall not confuse it with my other bottle." But it's much easier to forget. Don't drop matches on your darkroom floor, but have in a convenient corner on the floor an old metal bucket or large biscuit tin into which matches, broken negatives and similar debris can be dropped out of harm's way. R.

EDITORIAL TABLE.

"AMATEUR PORTRAITURE BY FLASHLIGHT," by William S. Ritch, is the title of a practical little book on the subject, just issued at the reasonable price of 10 cents by The Eastman Kodak Company. It is freely illustrated by a dozen portraits and by a couple of diagrams showing how different lighting effects may be secured.

"THE AMERICAN ANNUAL OF PHOTOGRAPHY" is the only photographic year-book to be published in this country this year, and it will therefore be closely inspected by all interested in photography. It will stand examination, for pictorially it is exceedingly varied in the style of the illustrations, giving many beautiful examples of photographic art. The literary contents are just as diversified, and one can find articles that are practical, theoretical, historical and pictorial — just as he desires. As a specimen of bookmaking, the volume is all that could be desired. Published by G. Gennert, 24 East Thirteenth street, New York. Price 75 cents, in paper covers.

THE PHOTO-BEACON.

AN ILLUSTRATED PHOTOGRAPHIC JOURNAL
Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents; foreign subscription, $1.36.

All remittances should be sent by postoffice money order, draft or registered letter to the order of THE PHOTO-BEACON COMPANY.

Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

All communications relating to THE PHOTO-BEACON should be addressed to

THE PHOTO-BEACON COMPANY,
SECURITY BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 611 to 621 Broadway, New York.

GETTY CENTER LIBRARY
3 3125 00615 5549